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EDITORIAL

By Professor Nancy Lee Harper

In this first issue of *Tension in Performance – The ISSTIP Journal* of 2011, we find ourselves continuing to learn so much in this ever-evolving and ever-fascinating world of Performance. From physical and psychological problems to performers' and audience perceptions, there is no dearth of interesting material to explore.

In this issue, you will find articles about Moshe Feldenkrais' work as adapted to singers and in alleviating their problems of negative tensions; piano posture; technical exercises at the piano to prevent and cure problem-related situations; Drama therapy; the Perception of Emotion in Singing; and anatomical considerations of the spinal column.

As well, the reader will find the first of our new Medical Column by invited physician – well-known to ISSTIP members – D. Garfield Davies. Another new item is the Armchair Researcher that aims to bring you information about new equipment and/or application in recent scientific studies.

This issue's Book Report features an important, although not new, resource: *Psychology for Musicians* (Lehmann, Sloboda, Woody, Oxford University Press, 2007). The Worldwide Report brings you news about Bio-Music in Cuba, the *Performa* Conference in Portugal, upcoming conferences (*International Performance Science Symposium 2011* in Toronto and *Music Anywhere!*, an online VideoConference in October), and other stimulating happenings in the U.K.

We invite you, the readers, to send us your commentaries, questions, and/or submissions to: isstip@gmail.com. Submissions guidelines appear at the end of the journal. We welcome articles and personal reflections.

The ISSTIP team wishes you and yours many tension-free summer holidays to renew your creative energies for the next academic year!

NOTES FROM THE CHAIR

by Dr Hara Trouli

It has been an interesting winter with new ideas forming and plans for the future. ISSTIP is now preparing for the new Open days in Northwood, London in Autumn of 2011 and our Seminar on Performance Health in the beginning of 2012. It is very encouraging to see the interest generated among students in learning and practicing with injury prevention in mind and also in raising their awareness with regard to performance anxiety, stage fright and other psychological matters that affect their lives and performances. ISSTIP has this year supported the research undergone at the Ernest Bevin College, a sports secondary school in London, where the posture of teenage boys was assessed and modified through education and workshops. The results will be presented by Steve Rodman, music teacher and project organizer, at the International Symposium on Performance Science (ISPS) in Toronto, Canada in August 2011.

It has also been an emotional time as we had to remove all of the ISSTIP archives from 28 Emperor's Gate, Carola Grindea's home and ISSTIP headquarters for many years. The material retrieved was exceptional. One would think that now, in our computerized times, all is stored in electronic files and very little paperwork exists. Well, amazingly so, Carola did use the computer even when she was 90 years old and she was eager to learn more and more about electronic communication despite her age and natural physical limitations. There is however, a feeling of admiration when one goes through the hardcopies – or if you like the only copies – of letters written on a typewriter, corrected with *tippex*, and signed with fountain pens. Carola wrote to everyone, literally everyone in the field of Performing Arts. It is fascinating to see all these names and institutions showing so much interest in ISSTIP's work. It took us weeks to go through all of the paperwork and some had to be sacrificed but some are kept and cherished. One wonders how Carola Grindea managed to keep so many routes open here in London and all over the world. Her dedication and her vision were deep and genuine. Her motivation was immense and her work was unstoppable. And for all this and so much else, we owe her a lot.

It is so much worth mentioning two new courses starting in 2011 in London. One is the MSc in Performance Science at the Royal College of Music (www.rcm.ac.uk/MSc) and the other is the MSc / Diploma in Performing Arts Medicine at University College London in collaboration with BAPAM, the British Association for Performing Arts Medicine (www.bapam.org.uk). ISSTIP supports every effort towards better education and proficiency in the specialized area of performance health and wish the organizers every success in their courses.

Identifying Negative Tension in Singing: Finding Ways In Which The Feldenkrais Method Can Relieve Its Inhibiting Effect On Vocal Performance

By Morag McLaren

Keywords: Singing; Negative Tension; Feldendrais Method; Vocal Performance; Voice

Abstract: This essay will consider what the Feldenkrais Method has to offer in the way of finding an integrating learning tool that facilitates the 'balanced quartet of emotion, intellect, body, and voice', that is the complex synthesis of singing, knowing that no 'one part can compensate with its strength for the weakness of another.' (Linklater 2006: Introduction.)

'Contrary to popular belief, singers and actors are seldom intrinsically neurotic – but they are sensitive, working under circumstances which are physically difficult, mentally and emotionally demanding and tension-provoking.' (Davis & Jahn 2004)

Negative tension is the enemy to singing. It restricts technical function, inhibits musical interpretation, and curtails physical mobility and reigns in creative choice. Due to the exposing nature of vocal performance it is visually obvious to an audience and painfully felt by the performer. Attempts to conceal it, too often result in the manifestation of increased tension, physical armouring and facial masking. Reich viewed 'chronic muscular tension and attitudes of character as functionally identical and inseparable.' (Hartley, 2004: 22) Understandably, 'the tensions acquired through living in this world, as well as defences, inhibitions, and negative reactions to environmental influences, often diminish the efficiency of the natural voice to the point of distorted communication.' (Linklater, 2006: Introduction) This displaces the singer and alienates the audience. Pleasure is lost for both. Satisfaction is gained by neither. At its worst it not only cripples technique, expression and enjoyment, but also causes injury and anxiety. Physical, mental and emotional tension is inextricably bound in singing. It is hard to disconnect one from the other. Inevitably they affect each other. Although the voice 'is most perceptibly blocked and distorted by physical tension; it suffers equally from emotional blocks, aural blocks and psychological blocks. All such obstacles are psychophysical in nature.'(Linklater, 2006: 8)

'We are aware of inner tension and resistance; we feel strain when acting the way we do. The strain is always expressed through muscular tension.' (Feldenkrais, 2002: 9) It is vital therefore that singers develop a heightened awareness of any kind of tension that impedes their ultimate capabilities, intentions and motivation, find ways to eradicate its paralysing effect so that they are free to integrate and enjoy the demands of vocal production and interpretation in performance, and reap the benefits of a lifelong, vocally healthy singing career. This essay will weigh up what the Feldenkrais Method has to offer in the way of finding an integrating learning tool that facilitates the 'balanced quartet of emotion, intellect, body, and voice', that is the complex synthesis of singing, knowing that no 'one part can compensate with its strength for the weakness of another.' (Linklater, 2004: 9)

Human sound making is, in short, the result of physical tension, as are human movements. For musical sounds and physical movements to occur simultaneously is not an artificial partnership but one natural to man. (Kerman, 1988)

It is worth pointing out from the start that positive tension *is* required in singing. Agonist and antagonist muscles work in pairs, in opposition, to create movement in the body. 'In efficient action there is a balance between opposing muscle groups, chiefly the body's extensors and flexors.' (Reese, 2002: xix) They 'cooperate in a seesaw manner: when the flexors shorten a limb, the extensors yield and lengthen to allow voluntary action to take place.' (Feldenkrais, 2002: 118) Singing is a physical activity that requires many muscle groups to contract (tense) to function. However, when muscles co-contract, then movement and flexibility are impaired. Likewise, excess contraction from over-use starves muscles of blood supply and can result in fatigue, cramp or in the worst cases injury. Both co-contraction and excess contraction should be avoided in singing. 'Physical awareness and relaxation are the first steps in the work to be done on the voice.' (Linklater, 2004: 8) While re-thinking and monitoring practise routines can address over-use – and awareness of knowing which muscles to use for each movement and learning how to relax these muscles is the first step to rectifying negative tension in singing – it is not always

easy to identify certain muscle groups, given the complex pulls of focus and coordination of skills. 'In fact, there are only a few parts of the body not involved in some way in the process of voice production.' (Davis & Jahn, 2004: 1) It is useful therefore to identify where negative tension most commonly occurs in singing, but not before making a brief overview of the core elements and their function in vocal production.

The human voice is a truly amazing instrument, produced by several systems of the body working together in harmony. The three systems in the body that work together to produce voice are the respiratory system, the laryngeal system and the resonance system (Wingate, 2008: 1)

The function of the **respiratory system** is to give power to the voice. In singing 'the singer must put exhalation under conscious control and activate the abdominal girdle muscles, allowing a slower controlled steam of air to be exhaled. The control of this abdominal action, coordinated with phonation, is what singers refer to as **support**'. (Wingate, 2008: 2)

The **larynx** or voice box is where **phonation** occurs when the flow of air passes between the closed **vocal folds**. The 'folds are set into vibration and begin to oscillate in a wavelike manner. The sound produced by the vocal folds results from the small bursts of air that escape from between the vocal folds.' (Wingate, 2008: 6)

The **resonance** system is made up of the throat and mouth cavities and affects individual vocal qualities and timbre. The **vocal tract** is modified by the position of the lips, tongue, and soft palate. 'These changes create the differences between vowels and help to amplify the energy of the voice for projection and increased loudness.' (Wingate, 2008: 7)

Finally, movement of the jaw, lips, tongue, palate and teeth create the necessary **articulation** of words.

The above resume is a grossly oversimplified analysis of vocal production, but nevertheless reveals 'the 'complicated process that occurs automatically to produce the amazing human voice.' (Wingate, 2008: 7)

Tension in one vocal system will lead to compensation in another, having a knock-on effect on the level of overall tension. Because the systems work 'together in harmony' in a co-dependant integrated action, the difficulty and problem with singling out one muscle group for attention is obvious. Indeed, it could be counter-productive by tilting the coordination of focus out of kilter. A simple command to relax a part of the body may instead intensify psychological insecurity and perception of failure. The 'body's neurology may not respond to such conscious, analytical commands to change.' (Nelson & Blades-Zeller, 2002: 1) It is no wonder that singers get confused and overwhelmed, especially if the emphasis is on voice technique that leans on external instruction, information and criticism as the main teaching tools (as is so often the case), rather than by sensing and synthesizing internally. 'Because of the largely invisible nature of the vocal instrument, vocal technique has about it an elusive character that can lead to a preoccupation with technical matters…the flow of imagination and creativity are trapped in the specifics of vocal mechanics.' (Miller, 1986: 209) 'Orders are out of place in art.' (Stanislavski, 1950: 99) It is no surprise that musical intention struggles to shine through in a complex process where the 'sound produced is constantly monitored and adjusted according to the perceived variation between what is generated and what is demanded by the singer's musical intelligence,' (Davies & Jahn, 2004: 11)

In what ways might the **Feldenkrais Method** ease and facilitate this tug of internal and external focus and in so doing relieve negative tension?

'The Feldenkrais Method emerged as a synthesis.' (Reese, 2002: x)

'Moshe Feldenkrais (1904-1984) was a European physicist, engineer, and martial artist. Through analysis and personal experimentation he created a vast catalog of perceptual interventions for unlocking movement habit and encouraging movement innovation. His contributions are carried on in the work known as Feldenkrais Method.' (McHose & Frank, 2006: 136)

'The Feldenkrais Method is a self-discovery process using movement. Its aim is to produce an individual organised to perform with minimum effort and maximum efficiency.' (Nelson & Blades-Zeller, 2002: 3) This claim is instantly appealing to the singer whose ultimate goal is to feel free and at ease in performance. 'Efficient organization is developed using the "organic" learning style

of our early childhood. As such, it is an open ended development learning process, which like music, offers infinite possibilities for refinement.' (Nelson & Blades-Zeller, 2002: 3) This approach offers an appropriately open and flexible mindset for singers, which encourages a childlike fascination, spontaneity and sense of fun that is conducive to performance. 'When you perform, ideally you temporarily drop your protective armour and re-connect with your natural expressiveness.'(Otswald, 2005: 12) The process is directed by curiosity and questioning rather than fixing or getting things right. The emphasis is on pleasure of movement, exploring options and clarifying function in a non-judgmental environment. Alexander Lowen's bioenergetics therapy certainly supports the importance of enjoyment for optimal movement. 'When control and spontaneity are harmonised so that each supplements rather than hinders the other, the pleasure is greatest. In such actions the ego and the body work together to produce a degree of coordination in movement that can only be characterized as graceful.' (Lowen, 1975: 265) In the Feldenkrais Method there is no concept of preconceived standards. Individuals work for themselves, and at their own pace, within their comfort zone, and with a lightness of effort. 'Singers need a safe place to juggle and experiment with the integration of voice, drama and movement…a non-judgemental environment that is akin to a laboratory' (Clark, 2002: xi) in order to truly explore, take risks, feel their way, tap their range and discover their full potential. If adopted in the teaching (and rehearsing) of singing The Feldenkrais Method's way of thinking and sensing would not only identify and ease physical tension, but also would ease the psychological tensions associated with receiving what can seem like negative criticism and ward off tension created by over exertion.

'The senses are our doorway to perception. Perception is the interpretation we make of our sensation.'(McHose & Frank, 2006: 1)

If there is one element of The Feldenkrais Method that is invaluable for a singer, it is its focus on **Kinaesthetic Imagination**. 'Kinaesthesia is the perception of your body in motion: how it moves, where it moves, and the quality of that movement. Therefore, your kinaesthetic sense is as essential as your other five senses, and all singers must learn how to use it.' (Malde, Allen & Zeller, 2009: 5) Developing a keener kinaesthetic awareness is a powerful inclusive tool for feeling and assimilating vocal technique and music. The 'best way to strengthen your kinaesthetic sense is to use it not only in your singing life but also in your daily life.' (Malde, Allen & Zeller, 2009: 5) The Feldenkrais Method's use of kinaesthetic imagination goes a step further by engaging visualisation and imagery alongside sensing and in so doing 'draws no distinction between body and mind.' (Callery, 2002: 38) In order to make musical sounds a human being must deliberately create sound shapes, and in order to do that, he must be able to imagine them before they occur.' (Kerman, 1988) 'Developing a more accurate kinaesthetic image is immensely valuable because it allows you to know more completely what you are doing. Otherwise, you may inadvertently introduce tension into your system. It allows you to notice excess tension *before* it becomes a major problem.' (Nelson & Blades-Zeller, 2002: 8) More importantly, though it facilitates the singer in the synthesis of vocal expression and vocal function. Kinaesthetic Imagination is crucial for optimal performance.

Feldenkrais 'dismisses the received notion of a duality between mind and body; rather he maintains there is a *functional unity* between the mental and the motor process so that feeling and thought are inseparable. Action cannot be divorced from feeling, sensing, and thinking: they are for Feldenkrais, one and the same thing.' (Callary, 2002: 39) By fine-tuning a kinaesthetic imagination it is as if 'you become a spectator of your own body – from the inside – as learning seems to happen inadvertently. Perhaps this is because the sensory stimuli activated lie closer to our unconscious or subconscious functioning than to our conscious understanding.' (Callary, 2002: 39) In its breadth and depth, the Feldenkrais Method broaches somatic psychology — 'Somatics and somatic psychology seek to re-empower individuals by validating their own subjective experience and the knowledge accessed through bringing awareness to body mind processes.' (Hartley, 2004: 13) — but without consciously pushing therapeutic benefits, though inevitably at some level personal healing will occur.

When 'Feldenkrais teaches his most important ideas, he can be counted upon to communicate their foundations through the most concrete forms of somatic experience,' (Reese, 1985: xvii) promoting a wholesome, organic learning process where 'awareness does not make us observers, but rather self-experiencers, self-empathisers. It connects

cognitively, emotionally, and physically. It teaches us connectedness, wholeness.' (Keleman, 1979: 58) It allows the singer to embody not just their voice, but also their individuality, with inner confidence, 'and represents a posture in the world, a core signature, which adjusts its stance to engage particular events…and brings forward a more fully embodied attention.' (Conger, 1994: 230) This has the external affect of imbuing the vocal performer with presence, an unquantifiable, but palpable quality often brandished about and viewed in the performing arena as an indisputable asset, and one that is tension free and intention clear. 'The learning that each human being has to go through to achieve the best quality of functioning [that] his structure permits is as remarkable as anything in nature. Human posture, at its best, is capable of such a wide range of movements that it makes man the king of the animal world.' (Feldenkrais, 1985: 53)

Feldenkrais' philosophy is irresistibly seductive and well worth investigation. Its significance as a tool for integration of the core elements of singing is unquestionable.

'The importance of alignment while singing is well documented. Poor posture affects flow of breath, and faulty alignment can create tension that affects the throat and the act of singing.' (Clark, 2002: 11)

'The structure and alignment of the human skeleton is the scaffolding on which all other parts of the body depend. Therefore any discussion on the vocal mechanism must begin here. Posture, mental attitude and genetic propensity determine the alignment and balance of the body, and good body alignment is the beginning of efficient breathing and fundamental to healthy singing.' (Bunch Dayme , 2009: 56)

Good posture and alignment will immediately give a singer a sense of presence, confidence, control and intention. Common problems observed in singers are 'improper position of the head, rounded shoulders, a cramped chest, and excessively arched lower back (lordosis) and locked knees.' (Bunch Dayme , 2009: 59)

The Feldenkrais Method lends itself to developing an awareness of alignment due to its focus on the skeletal framework, particularly the spine. 'As the deep support of the skeleton is felt and embodied it becomes possible to let go of holding in the soft tissues; almost a by product of working with bones, tensions can be released and muscle use re-patterned.' (Harley, 2004: 155) Many of the Feldenkrais movements are exercised lying down, which relieves pressure, maintains lightness and encourages relaxation. 'Posture means stasis or standing perfectly still. Singing however always requires movement, so the word *posture* can be antithetical to excellent singing.' (Malde, Allen & Zeller, 2009: 12)

"Good" posture is never held or frozen, but is filled with energy and in constant motion.' (Clark, 2002: 15) Detailed instructions on how to stand up straight, pulling the shoulders back, and lifting the sternum are 'damaging posture myths'. (Clark, 2002: 118) 'Good posture for Feldenkrais is one which is dependant on being able to move in any direction: every movement has to be reversible. Feldenkrais does not teach a correct posture, nor does his method insist on a right way to accomplish movements. The emphasis is on the individual finding the most comfortable, least strenuous route for themselves.' (Callery, 2002: 38) This is a liberating approach to the teaching of posture compared with more prescriptive methods, but requires patience and time. The openness encouraged may hit resistance with participants who are used to being 'taught to avoid risk in learning and to find answers quickly. In most learning contexts, it is the goal rather than the process that is valued.' (McHose & Frank, 2006: 2) The Feldenkrais process cannot be rushed. It progresses insidiously. It develops simple core skills. 'Many musicians are so fixed on complex elements that they fail to spend enough time on the basics. Spending enough time learning something would feel interminably slow, but that is the way to true growth.' (Werner, 1996: 60) The Feldenkrais Method has to be afforded time, space, concentration, sensitivity and stillness to thrive in a curriculum and lifestyle, and may lead to a personal reassessment of how to think, feel and learn. It may shift attitudes towards goal setting.[1]

'In humans, goal orientation, and urgency to survive lead to habits of inhibition that get in the way of learning new and better movement.' (McHose & Frank, 2006: 2)

Good posture goes a long way to relieving negative tension and freeing the respiratory system for optimal breathing function and support in singing. However, there are two specific areas of tension that commonly occur in singing that merit particular inspection in

relation to the Feldenkrais Method. A tense jaw is enormously destructive to optimal vocal function. It has a knock-on effect of causing tension of the tongue, pharynx and larynx. It creates a sound that is gripped, inflexible and invariably out of tune. It feels uncomfortable for the singer and looks unnatural to the audience. It manifests itself in a fixed facial expression and blocks emotional intention in the music. 'When the voice of a person is free, it comes from the heart. This means that the channel of communication from the heart to the world is open and free of obstruction.' (Lowen, 1975: 275) Freeing up a tight jaw can be a delicate process, for it masks a psychological attitude, emotional restraint. Alexander Lowen throws light on the psychological issues at stake.

> *Setting the jaw, regardless of its position, is equivalent to saying, "They shall not pass." It functions in this respect like the portcullis of a castle which keeps undesirable people out but also encloses those on the inside. Because of its strategic location as the portcullis for the personality, the tension in the muscles that move the jaw is the keystone to the holding pattern in the rest of the body.*

It is not surprising then, that singers hang on to their jaws for dear life in an effort to grasp control of a situation (performance), where they feel exposed, vulnerable and frightened, and that giving the simple instruction to relax the jaw will rarely have the desired effect. The work has to be explored at a much deeper, more organic level, in sensitive, safe surroundings.

'Eyes are the mirror of the soul.'

Eye tension in singing also marks escape. Singers who fix their eyes in a stare cut themselves off from the audience (and themselves). This is a tension that unlike jaw tension is rarely challenged or explored in the teaching of singing. An audience relies on singers to communicate expression through their eyes, not just their voices and bodies. 'The eyes actually have a double function; they are an organ of vision and also of contact. In looking, a person actively expresses himself through the eyes.' (Lowen, 1975: 282) Again, it is a sensitive issue. 'Eye contact is one of the strongest and most intimate forms of contact between two people. It involves the communication of feeling on a deeper level than verbal because eye contact is a form of touching.' (Lowen, 1975: 282)

Singers have a very direct contact with their audience that verges on the intimate. They aim to touch an audience with their musical message, the emotional intention. It takes enormous courage to face a crowd, be the centre of focus and look them straight in the eye. Yet what may seem like a simple skill is a powerful path to winning over an audience instantly. It is frankly shocking how seldom it is given attention in the training and rehearsing of vocal production. Like the jaw, tension in the eyes has a knock-on effect of creating tension elsewhere.[2] 'Excessive tension in the eyes will directly reduce resonance by creating pressure on the sinuses. Keeping the eyes relaxed can be expected to relax our entire nervous system. Indeed, when we feel we are visually relaxed, we feel centred, and all the muscles in the head and jaw relax as well. As a result the voice is open, clear, flexible, and resonant.' (Nelson & Blades-Zeller, 2002: 153) The Feldenkrais exercises on releasing eye tension and jaw tension simultaneously are illuminating and economically practical. Linking the eyes with the jaw in a slow repeated movement, in opposing directions (eyes look up while jaw drops) is a most effective, gentle, organic way of releasing the jaw and softening the eyes at the same time. If one Feldenkrais exercise had to be singled out for its value in singing, this would be it.[3]

The Feldenkrais Method is taught in two situations. **Functional Integration (**FI) is a hands on, one to one session with a Feldenkrais practitioner that parallels Reich's concept of *somatic resonance*, whereby 'recognition by the therapist of her own somatic experience, evoked by the client's process, facilitates the awakening of awareness in the client, and the release or transformation of energy' (Hartley, 2004: 23) except that in the Feldenkrais method clarity of function is the focus. The other is **Awareness Through Movement** (ATV) is a guided group movement lesson. ATV would obviously be the more practical and less costly for teaching singers.[4] However, the rewards of personal focus in the FI session could be very beneficial. An integration of both would be ideal. In fact an integration of the Feldenkrais Method with singing in an educational institution is an exciting prospect. It would provide training, curriculum where the connection of the physical, psychological,

and imaginative aspects of singing are identified and explored in synthesis. Negative tension in performance could be: recognised, causes addressed, treated, in a trusting non-confrontational environment where inhibitions and anxieties might be minimised. Individuals would embark on a self-directed programme where personal awareness and acceptance reigned, clarity of intention linked to technical function, and self-motivation promoted. Inevitably, the quality of technical and creative work would be enhanced. Students would be physically flexible, less prone to injury, and free to express themselves in gesture and movement.[5] This is also a tool for 'imaginary warm ups' (Nelson & Blades-Zeller, 2002: 138) imaginary practice, reserving energy, increasing focus, resisting vocal abuse, and maintaining vocal health. Voices would be free, liberated from mental and physical restriction, their optimal beauty and expressivity accessed, their confidence raised. In effect The Feldenkrais Method 'enables the highest level of attainment without undue stress on the human physical and emotional systems.' (Nelson & Blades-Zeller, 2002: 20) On a more fundamental level, the sheer thrill of singing would be restored. Most singers have a defining moment in their life when they decided singing was what they wanted to do with it. Too often the fulfilment of that aspiration gets lost in a learning process and a profession that confuses, inhibits and negates, and where expectations are too high. The resulting tension blocks the way to their ultimate goals, and robs them of pleasure in their chosen profession. Enjoyment cannot be overestimated. It is infectious. It spills out into all avenues of work and relationships. Audiences feel it, love it, and respond to it.[6]

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[1] I worked with the physical theatre director John Wright (*Told by an Idiot*) who incorporates Feldenkrais exercises into his rehearsal process. The first hour and a half session every morning was dedicated to a focused Feldenkrais movement sequence, despite the pressing time limits of the rehearsal period. His aim was to create a sensitive, connected company with open minds, flexible expressive bodies, who were free to explore ideas in the improvisational nature of the work. The performers felt safe to discover their individual physicality. The time spent warming up and assessing our bodies made the time spent in rehearsal concentrated, efficient, tension free and without injury. There was an atmosphere of lightness in the rehearsal space – a lightness of movement, gesture and attitude. My one reservation was that the Feldenkrais had not somehow been linked to our voices. Vocal tensions still crept in. This is a continuing area of study, exploration and interest of mine.

[1] I have found unlocking, freeing up eyes, working on eye contact with vocal students has been an economical way of freeing up their technique, breathing, phrasing, physical gesture and musical expression. In fact it is a very useful integrative exercise.

[1] These exercises are set out in *Singing with Your Whole Self, The Feldenkrais Method and Voice* (pp. 153-155, please see Bibliography for complete reference). They are invaluable for a singer. In fact, the connection of eyes and jaw has been a personal revelation, and one that is being explored further in teaching and in practice.

[1] I have been making tentative steps to connect Feldenkrais exercises with actual vocalisation, firstly myself in sessions with my Feldenkrais practitioner, and more recently with a singing colleague. So far, we have had interesting results. I have found the Feldenkrais reversibility principle works with singing and the exercises. I have been able to free up the Feldenkrais movement by singing, and at the same time I can free up the voice with the Feldenkrais exercise. I was not anticipating this co connection. I have also carried out a lesson with a professional singer, myself (as vocal tutor), and my Feldenkrais practitioner (Donna Malcomson). After taking time with some Feldenkrais exs on neck/shoulder and sternum on floor, we then worked on the pelvis (as 'power source'). I introduced simple vocal phrases, then the singer sung a simple folk song, and

finally progressed from these to singing a Mozart aria ("Porgi Amor" from the *Marriage of Figaro*), unaccompanied, and on a chair, while gently moving. We simplified concepts of voice 'production' (so that there was no vocal strain, low dynamic), focused internally, through kinaesthetic awareness, on physical sensation and emotional truth. For me the sound seemed easy, free and completely natural (which is not always the case with classically trained voices, where the sound can be muscular and generalised.) and had the individual's unique quality (another thing that can get lost in a classical training). I 'believed' her voice. This is what she observed from the experience:' In this session it felt as though my voice was inextricably linked to my body rather than functioning as a separate entity. My singing 'came out of my body', rather than merely being supported by it. The result of this was a feeling of total lack of inhibition and a lack of concern either about how I might breathe or what I sounded like. I'm very keen to try this again soon, since it feels the right way round to experience my body first, rather than incorporate it retrospectively as is so often the way for singers. What a pity this wasn't on offer when I was studying.'

[i] An invaluable tool to develop stagecraft skills of: embodiment, character development, physicality, period movement styles, dance, creation of a role, and other skills.

[1] At a British Voice Association conference I attended in October 2009, when asked what quality they look for first in a singer in audition, the panel of musical directors unanimously agreed on enjoyment. They responded positively and immediately to singers who walked into the space and delivered a song with intention, clarity, and *pleasure*. Minor technical flaws went unnoticed by comparison. It would seem that intrinsic value not only instils pleasure in the singer, but also may well earn them the jobs.

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POSTURE AT THE PIANO: BODY AWARENESS FOR PIANISTS

By Hao Huang and I-Ching Tsai

Keywords: Piano; Posture; Piano Technique; Tension; Relaxation

Abstract: Correct posture is one of the least discussed yet most problematic issues in piano technique. This article presents and overview of some of the most significant works on keyboard technique and posture. The consequences, which incorrect posture has on musical results, are also considered.

One of the least discussed yet most problematic issues in piano technique involves posture. Far too often, piano teachers witness the most extraordinary efforts by piano students to compensate for discomfort at the keyboard. This often involves hunching over the keys, bending the neck or bobbing the head, popping up the wrist, collapsing the hand, and other excruciating positions. If students sit too low, fingers will labor under the burden of dead arm weight; if they sit too high, the playing becomes brittle and non-nuanced, with accompanying tension in the wrist and shoulders. Pianists must address the question of posture as a prerequisite to playing the piano efficiently. All too often our students waste energy and time in trying to cope with non-productive body attitudes at the piano. Let us begin with a brief overview of some of the most significant works on keyboard technique and posture.

The question of posture has concerned keyboardists as far back as Carl Philipp Emanuel Bach (1714-1788), whose *Essay on the True Art of Playing Keyboard Instruments* advocated sitting in the middle of the keyboard with forearms suspended slightly above the keyboard. Fingers were to be arched and muscles relaxed, and flexibility was recommended for crossing fingers, stretches and passing of the thumb. Muzio Clementi (1752-1832), who suffered defeat at the hands of Mozart in a competition staged by Emperor Joseph in 1781, ushered in a new physical approach to a recently developed instrument, the pianoforte. His *Introduction to the Art of Playing the Pianoforte* is remarkable for its allegiance to legato and its directions to keep the hand level with the forearm, to curve

the fingers as appropriate and to allow little arm movement. This was followed by a three volume work by Mozart's pupil, Johann Nepomuk Hummel, entitled *A Complete Theoretical and Practical Course of Instructions on the Art of Playing the Piano Forte*. Hummel promoted sitting with the upper arm slightly extended, so that the elbows would be four inches closer to the keyboard than the shoulders, and the elbows about an inch higher than the upper surface of the keys. In this way, the wrist and hand could be held horizontal.

Ludwig Deppe (1828-1890), the father of weight technique, recommended sitting low enough to bring the forearm to an incline from the elbow to the wrist, thereby allowing the fingers to produce tone solely by the weight of the hand. Rudolph Maria Breithaupt (1873-1945) followed with a book, *The Natural Piano Technique*, which represented the high-water mark of arm weight technique. Breithaupt suggested that the player sit low in the initial stage of training, with the wrist and elbow somewhat lower than the level of the keyboard, a position conducive to suppleness in the joints and relaxation through passive suspension of arm weight. Jozsef Gat's (b. 1913) major work, *The Technique of Piano Playing*, recommended a sitting position at the keyboard in which forearm and upper arm are free and the body moves forward and backward easily, which movements can raise the elbow somewhat higher than the keyboard for octave and chord playing, or lower the elbow and forearm somewhat lower than the keyboard for velocity and dynamic control in finger passages. Gat acknowledged that sitting height should depend upon the length of the upper arm, and that the distance away from the keyboard depends on the length of the forearm.

This brings up the following question:

Should we prescribe a particular acceptable basic posture for piano students?

Given the differences in body size and proportion among human beings, are there any truths which remain constant?

We believe that the answer should be, quite simply, yes, at least at the beginning.

Fig. 1. Proper Shoulder to Forearm Alignment.

Fig. 2. Proper Hand and Wrist Position.

A healthful and natural posture can help to prevent unnecessary tension and encourage a sense of freedom and economical muscle use. At the same time, it permits the efficient skeletal alignment that promotes maximum use of available energy resources. Students should be introduced to basic principles of posture before they evolve their own unique technical approach; moreover, correct posture habits are necessary, lest the hours spent practicing (using faulty posture) lead to permanent body injuries. Bonnie B. Swafford has made a cogent warning about the consequences of bad posture (Swafford 1996: 36):

> *Muscles provide movement and support to the body. Misuse of muscles or persistently poor postures can be a source of pain, and over time can cause the development of worse problems. This misuse can cause a muscle to become tight and shortened on one side of the body, creating an imbalance by putting the opposing muscle, that is, the muscle that lets the body perform the opposite movement, in a stretched and weakened position. This imbalance between muscles that are tightened and shortened and opposing muscles that are*

> *stretched and weakened results in restriction of normal movement and pain.*

Bench levels must be adjusted so that forearms are lined up with the key beds, and bench distance from the piano should be determined by ensuring that the elbows: (1) are slightly below the surface of the keys themselves (this permits an easy access to arm weight without effortful pressure) and (2) have some latitude of motion (this way, they won't keep bumping into the torso as arms cross the body.) Any bench that is too high or low will directly influence tone control and cause problems with arm flexibility. Teachers must have adjustable stools or chairs; students need to be taught to be aware of sitting height considerations. We should encourage students to sit towards the front edge of a chair or bench, occupying only 1/2 to 2/3 of bench width. This will emphasize balance and occasional active body orientation in leaning towards the keyboard; it will also allow the lower back and hips to provide power and weight in playing, instead of using harsh, percussive hand banging. When efficient weight distribution takes place, there will be sufficient body support and freedom for pedaling.

Fig. 3. Adjusting for correct bench height.

Seymour Fink proposes that aligning the torso directly over the body's "sit-bones" (the two bony prominences at the bottom of the pelvis) generates a poised unity and verticality of the pianist's entire upper body. This relates directly to Alexandra and Roger Pierce's assertion (Pierce, A. and R. 1984: 47) that pelvic support:

> *… can allow balanced ease in sitting, so that the front of the trunk is released, breathing is full and free and spontaneous, the head floating in balance over the spine -- all without inducing the kind of muscular holding that feels stiff and often leads to pain. Pelvic balance is easiest when the tops of the thighs slope gently down to the knees, and it puts the skeleton in its proper role of support, and takes the load off muscles, which are then left to do their job of movement.*

Fig. 4. Sitting on front edge of bench.

It is important to keep an image of balancing your sitting body in a dynamic fashion, rather than holding yourself in a rigid posture. To address the variety of physical demands associated with playing a keyboard instrument, significant torso movement is required. A finely balanced body with correct spinal alignment (head, neck and torso) will prevent tensions from being accumulated in the neck and, consequently, on the shoulders, arms and hands. Sometimes this tension can travel upwards to the jaw and facial muscles. Keep the torso poised and feel the sensation created by the spine as it elongates upwards towards the head. Try to balance the torso over the hips, and maintain flexibility and mobility of the body by maintaining open and relaxed joints.

Guy Wuellner advocates "plumb seating" at the keyboard (Wuellner 1987: 55):

> *When something is 'plumb'… it is directly vertical to the center of gravity of the earth… When a student is sitting straight on the piano stool, this position is 'plumb'...At this position the arms should comfortably reach the keyboard without the body leaning forward. The trunk of the body should be in a plum line and the arms are comfortably reaching the keys. To play forte and fortissimo dynamic levels, the body is leaned forward toward the keyboard.*

> *There should be no discomfort or strain on the back or trunk of the body.*

Many pianists lean towards the piano in an effort to create a deeper expressive tone in their playing. One must be careful not to exaggerate this inclined posture because if the leaning into the piano is overdone, it can distort spinal alignment. This will trigger tension from shoulders to hands, not to mention creating a feeling of restricted power and flexibility of the arms. Conversely, sitting back on a bench or chair creates a counterproductive inertia that renders any contact with the keyboard tenuous. Furthermore, it prevents grounding the body with feet anchored to the ground; instead, floating with feet in the air can create the sense of an unbridgeable disengagement between the body and the keyboard.

Hunching over the keyboard creates problems, for it impedes the mobility of the arms by limiting available space for elbow motion. Lifting the sternum orients the breastbone outwards instead of caving inwards. At the same time, it prevents the chest from being constricted, naturally leaving more space for the lungs to operate. Carola Grindea recommends that exercises involving long flowing exhalations alternating with slow intakes of air should be practiced regularly before playing, because they promote the external and internal conditions of the torso which counteract the effects of tension. Learn to breathe from the belly (diaphragm). This often-overlooked muscle, when used properly without undue tension, can help lungs to expand properly. Thereby an adequate supply of oxygen to the body is ensured, which is especially important during a performance, when body motions increase and grow faster and oxygen demands are greater. Madeline Bruser encourages keeping the front of the torso relaxed, to promote free circulation of blood and oxygen and to allow emotional energy to run more freely through the viscera (!).

Be careful of where the eyes focus: many musicians habitually lower their heads and necks, which encourages a hunched position caused by myopic concentration on fingers scrambling over keys. This is a way that spinal alignment can be thrown off, which will cause tension in the neck and shoulder, as well as inhibiting free movement of the arms. Raise the eyes away from the hands as much as possible, and choose to develop a tactile sense linked to a "topographical" knowledge of the keyboard. To reach the farthest keys on the piano, align the body with the part of keyboard that is being played and let the hip joints do the job of hinging and shifting the torso to the desired location. It is imperative to avoid slumping forward towards the keys or relying on limited waist flexibility and strength to move the body. Remember to breathe fully as a way to prevent the torso from compressing. Separate the knees, aligning them over the feet. Keep feet flat on the floor and spread apart for additional stabilization when not using the pedals, or use the heel as an anchor when pedaling. This correlates with Murray McLachlan's observation (McLachan 2002: 34):

> *Pianists can learn a lot from Tai Chi regarding firmly-anchored feet at a slightly splayed angle, and feeling a center of gravity from your heels means that you can sit on the edge of the stool and so liberate the whole of your body for use as need be.*

The process of achieving good posture involves the development of a keen sense of physical self-awareness. When the mind and body are trained together to reach a state of minimal tension, one should be able to read and respond to inner kinesthetic signals. The manner in which the head is held is crucial. Sit with the head erect, imagining that it is "sitting" loosely on top of the spine, as if the head were weightless with the neck extended, instead of emulating the stiff ideal of ramrod straight. Feel that an invisible string is being stretched from the top of the head to the sky, creating a sense of space between your head and your body.

As Dr. Alice G. Brandfonbrener comments (Brandfonbrener 1997: 58),

> *Another frequent site of pianists' pain is the back of the neck, caused by excessive and sustained muscle tension in the cervical paraspinal muscles and also commonly responsible for occipital headaches among musicians and many others who maintain the head in a forward position. Many keyboard players consider neck, shoulder, and upper back tension and pain to be an inevitable part of piano playing.*

The Alexander technique, created by Mr. Frederick Mathias Alexander (1869-1955), claims to offer a way to release the body from

disruptive tensions and to bring great relief from pain. Alexander labelled the interaction between the head, neck and back as the Primary Control. He believed that this Primary Control directly influences both simple and complex daily activities, such as walking and playing a musical instrument. His observations revealed that people have the tendency to pull their heads down and back into the neck, causing a downward pressure and a collapsing sensation for the rest of the body, specially the spine. As a solution, he suggested a method of lifting and releasing the head away from the neck, so that accumulated and unnecessary tension might be avoided.

Nelly Ben-Or (b. 1933), a practitioner of the Alexander Technique, ascribes a beneficial influence on an individual's mental state to this head posture, which automatically keeps the chin up and away from the lower front neck and chest. It is true that many pianists suffer from terrible tension in their jaws, neck and shoulders. Although Michael Jordan-style tongue hanging is no longer *de jour*, his facial relaxation is a telling case for what that does for the rest of the body.

Bring the shoulders down and outward toward the sides. If instead shoulders are erroneously forced upwards by the key depression reaction, undue tension accrues all along the arms, right up to the neck and back. Ideal shoulder position is achieved not so much by pressing shoulders down, as much as by bringing them back (away from the neck) and leaving them comfortably spread. When the shoulder blades move freely without restrictions, they promote the natural position of the hands and forearms; energy can flow unimpeded all the way to the fingertips. Students should be constantly reminded that shoulder movements involve moderate lifting motions, which facilitate the guidance and control of arm weight. To combat the bad habit of raised shoulders, many student pianists have found that placing a large mirror next to them while playing the piano facilitates awareness of physical attitudes and changes during performance. If shoulders become tense, oftentimes a deep breath can trigger a body tension release.

Our arms are well described as a system of levers that are essential in conducting internal energy from the body to the piano. The upper arms make lateral, cycling, and repetitive motions, as a pianist performs arm rotation and longitudinal movements in order to assist the fingers in creating flowing, extended musical lines. Instead of mechanically producing specific arm movements during a performance, the best policy is to think about how to create the conditions necessary to allow these movements to occur naturally. A tension-free arm or hand is liberated to make the right motions. This recalls Katharine Glaser's admonition (Glaser 1993: 24):

> … *because the body is not a collection of unrelated parts but an interconnected whole, tightness in one part of the hand or arm affects the rest of the arm, just as stiffness in any body part affects the whole body. Hand or arm tension in turn affects virtually every aspect of piano technique.*

The sensation of hanging from the keys, using arm weight, can diminish the incidences of frozen high wrists, obstruction of energy flow, and pain and/or numbness in the forearm, which are among the greatest hindrances that beginning and intermediate pianists face. It is indispensable for students to learn the "controlled fall" exercise in order to learn how to make use of their arm weight. A serious technical error is made by locking the elbow against the body, ensuring rigidity in that joint and limiting mobility for all other connected body parts. Unfortunately, this is also one of the most common mistakes that intermediate pianists make.

The wrists should be conceptualized as flexible bridges that carry arm weight and energy to the hands and fingers. They should be free to undulate vertically and rotate to the right or left. Only a relaxed wrist will be able to accommodate the difference in size and shape between each of the individual fingers, by ensuring consistent tone production through even transfer of arm weight. One of the worst mistakes in posture, yet ubiquitous among young pianists, is the frozen high wrist. This occurs when pianists try to overcompensate for weakness in the fingers. Students should be made to understand that the strongest weight bearing structure found in nature is the arch. However, although the reasoning behind forming an arch to gain strength is sound, the execution of forming one at the wrist is faulty. The arch and focus point of strength should be in the metacarpal knuckles of the hand, not the wrist at all. If the wrist is held high, the muscles of the fingers (which are located in the lower arm)

will be constricted and cannot work properly. In fact, stiffness in the wrist works directly against the muscles linking fingers to the lower arm, and rigidity results. The hand should be kept supple and "unlocked" to execute a variety of motions which assist finger articulations, such as rotating toward the right or the left side, spreading out or closing up, and shaking while remaining in place — Claire Le Guerrier has noted that this "shaking" is akin to the motion used when playing a loud trill.

Fig. 5. Improper Wrist Position.

Fig. 6. Correct Wrist Position.

Penelope Roskell (*Yoga for Musicians*) has made a very apropos statement about the interplay of action and release in piano technique (Roskell 1998: 44-45):

> *Piano playing requires a seemingly paradoxical combination of subtlety and strength, agility and poise, intense emotional expression and complete physical freedom… In piano playing, as in yoga, it is the balance of tension and release that is important.*

In a discussion of body and muscle relaxation, one common misconception needs to be rectified; that is, what is the relaxation process really about? It is important to recognize that there are different sets of body muscles designed for different specific tasks; these muscles complement other sets of muscles that perform other kinds of actions. For example, the muscles used to raise the arms are paired with other muscles that control the downward movements of the arms. Therefore, in any given moment, not all muscles are relaxed—some muscles must be active (non-relaxed) while others rest. Louis Kentner makes the acute observation that pianists should keep muscle exertion appropriately distributed, instead of working against themselves by using muscle groups inappropriately due to detrimental automatism. Brenda G. Wristen has made the point that "supporting the body in an upright position entails some tension, but this is not harmful. The word tension implies an unhealthy straining or tautness of the muscles." On the other hand, absolute relaxation leads to absolute inertia.

Fig. 7. Adjusting Student's Shoulder to Forearm Alignment.

It is important to acknowledge that a person who is the victim of unhealthy posture habits is inhibited from serving the best interests of the music. As Katharine Glaser has observed (Glaser 1994: 20):

> *It is important to remember that all parts of the body work together; any malalignment, imbalance, or tension in one part will affect others and usually alters the quality of the music as well.*

Our discussion of posture at the piano must conclude with the realization of what it is that we are trying to accomplish with our instruments. Evoke the tone you wish to produce in your inner ear, and try to match it with your hands, not just your fingers.

Through accomplishing a conscious control over posture at the piano, the pianist prepares to become an artist, ready to make music.

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Biographies

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Actors Acting: Work-related Psychological Problems

by Lambros Yotis, Hara Trouli and Dimitris Reissis

When we read actors' interviews, we often hear them declare that they have a unique job they would change for no other. A job that gives them creative satisfaction and expression and offers them constant contact with other people and the world around them.

Although there is no doubt the above is correct, research has shown that professional actors also face some particular psychological problems that are related to their work. These problems are linked to the professional role of the actor from the time he starts his training to the time of his retirement.

Mast (1986) studied the processes that take place in actors from the time they enter the drama school. A primary process that occurs during training is 'objectification', when the young actor learns to treat himself as an 'object' in various levels of function. Firstly, in physical function, their body becomes the tool. Movement and body, facial and vocal expressions are controlled in order to deliver the theatrical result. At the same time, the young actor learns to differentiate parts of himself (objectification of the self), to project these parts and re-assemble them. He must also distance his core self form those parts of the self by which he creates/acts in his role and disengages again in the end. This process leads to the overall objectification of one's personality during the construction of a complete theatrical character. In this process, the objectification of relationships is also observed, with common elements of deliberation, standardization and often reproduction and manipulation.

When the actor enters the professional arena, he faces circumstances contrary to those of other professionals (Zakopoulos, 1990, Davis, 1993). Although for other professionals their work role is defined and it contributes to one's identity, for the actor who enacts a number of roles, the result is a more unstable identity. At the same time, he learns to distance himself from the characters he plays and this leads to automation and routine. In most acting jobs, and with the exception of group creative experimental performances, the actor is the executive. The director and the stage manager direct the actor how to act and function. It is often the case that the actor's own opinions may not be desirable and the 'cerebral' actor can be characterised by lack of spontaneity.

The actor's relationships with his colleagues can also become theatrical and they are often short-lasting and superficial due to the continuing changes in castings. These relationships are friendly although actors may not be friends. The actor learns to tolerate negative criticism and to be self-controlled and self-disciplined. As he becomes more well-known he is doubly judged both for his roles but also as a public figure. Particularly for television actors, identifying the actor as the character he plays is much more common. Fame also affects privacy that diminishes as the actor becomes more recognisable. Adjusting to night shifts affects the biorhythms and sleep. This often becomes a hurdle in forming social relationships with people who work during the day. Lifestyle can become unconventional with liberal relationships, emotional challenges, and impulsivity, taking risks and continuously seeking authenticity and novel behaviours.

All the above, in conjunction with the uncertain financial reward that often leads to occasional side jobs, do not help in forming stable family ties. During retirement, actors can face early physical fatigue but also loneliness that they compensate with reminiscence and the thoughts of fame after death. It is observed that they may engage in non-artistic activities as a source of optimism.

According to the existing literature, quantitative as well as qualitative research data indicate that creative artistic ability is linked to psychopathological issues. Post (1994) in a study on 291 famous people from a variety of professional backgrounds, showed that some personality disorders, depression and alcoholism, are related to creativity. It was prevalent that famous artists demonstrated major deviations of their personalities and sought periods of rest and therapy much more often than famous people from other professions. Another study by Ludwig (1992) on 1005 people in USA, showed that creativity in artistic professions is more correlated to psychopathology than in other jobs. The same study showed that in 70 theatre artists the percentage of suicides, depression, drug abuse, hospitalisations,

psychological disorders and seeking of psychotherapy were statistically higher than in the general population.

A number of studies explore the relation of subclinical psychopathological characteristics within populations of artists. Wright (1997) showed that there is positive correlation of bipolar disorder with creativity and that the characteristics of this disorder in its subclinical form can be part of the creative process. However, he also showed that bipolar patients are more creative when their symptoms are under control. Janka (2004) examined bipolarity of writers and artists and found that bipolar mood disorder is highly over-represented. Moreover, bipolar mood traits might contribute to highly creative achievements in the field of art. Nelson and Rawlings (2010) found, in a sample of 100 artists, that the factor of schizotypy (cognitive slippage, uncertainty, preferred aloneness and deficiency for experiencing pleasure) was the strongest predictor of a range of creative experience scales, suggesting a strong overlap of schizotypal and creative experience.

Research in actors' relationships to self and others brings up knowledge on their inner psychological functioning. Barr *et al* (1972) concluded that professional actors are intelligent but can present with hysterical and schizoid (persistent withdrawal from social relationships and lack of emotional responsiveness) personalities and show a tendency towards exhibitionism and narcissism. They are vulnerable to stress, with inhibited aggressiveness and disturbed body image. Barr found that the most crucial ego defence mechanisms of an actor are regression, projection, denial, isolation and reaction formation. Henry and Simms (1970) showed that actors have increased identity confusion when compared to the general population. This can be moderated during periods of rehearsals when actors focus on a particular role. Fisher and Fisher (1981) showed that performing artists have a tendency towards exhibitionism, spontaneity and they are extrovert and sentimental. They showed that comedy actors function by denying threats, whereas dramatic actors reject the idea of death by expanding the 'here and now' to the past and the future.

Further qualitative data suggest that the actors' glam has also a dark side. Oswald et al (1994) believe that performers' lives are characterised from the early years by exposure to high expectations for excellence, non-stop chasing of perfectionism, and long periods of strenuous performance, strong competition, increased stage fright and career uncertainty. Loughlin (1997) in an article about the 'dark side of success' spoke about the actor's fears for unemployment, career, failure, body image, age, appearance, negative criticism and lack of feedback from others. He believes that the actor gradually loses his inner self, his spiritual growth, his experimentation and his self-expression. There comes a point where a feeling of emptiness remains.

According to the above data, the psychopathology of the actor can be directly linked to the nature of their job (stage fright), deriving from their job (fatigue, depression) or unrelated problems, which however have a knock-on effect to their acting (psychosis). Most of these problems, such as phobias or psychosis, are not specific and need to be treated as in all other populations, with a number of strategies ranging from medication to different psychotherapeutic approaches according to the clients' needs. However, some are particularly linked to the actor's way of life and need a special handling. A therapist needs to know that inner changes that affect communication skills can have a strong effect to a person of whom his persona is closely linked to his profession. The question remains open as to how one can contribute in a therapeutic way to the psychological matters that affect actors. However, several therapeutic modalities are practiced and attempted to treat psychological problems related to professional actors.

Dramatherapy, which is the use of theatre and drama with therapeutic aims, seems to have a lot to offer due to its affinities with the function of performance. Therapeutic processes that Dramatherapy comprises such as 'acting in', the use of role-playing parts of one's self, the use of de-roling after role-playing, the smooth passage from life to the 'as if' reality and back, the collective creativity of the group work are found to be very beneficial to professional actors, especially to those suffering from a burn out syndrome, due to their working circumstances. A forthcoming article will uncover in detail how these processes can be effectively used from a psychotherapeutic perspective.

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INVESTIGATING E-MOTIONAL MEANING IN MUSIC PERFORMANCE

By António Salgado, PhD

Keywords: Musical Performance; Perception; Emotion; Mind; Singing; Emotional Meaning

Background

Whether the music is 'fully improvised' or 'structurally provided', as in a notated score, it always comes to the performance's core as essentially the same*: an act of embodied experience of musical meaning* (Stubley, 1966; Clifton, 1983; Davidson and Correia, 2001; Cox, 2001). Recent investigations into musical performance (Imberty, 1977; Sundberg, 1987; Gabrielsson, A. and Juslin, 1996; Clynes, 1977; Schaffer, 1992, 1995; Juslin and Laukka, 2000; Juslin, 2001) report that a significant part of its creativity is connected to the performer's capacity to express and communicate emotion.

Nevertheless, when music is presented within a performance neither is its structure absent from the presented meaning nor is its meaning 'emptied' through the presence of the musical structure. Music is, therefore, a structured and structuring medium for *purposes* which reach beyond structure but which existence remains intrinsically connected to its presence.

It has long been stated, but it seems nowadays better understood and confirmed by empirical evidence, that there is an homology of inherent organisation and dynamics between the sounds of music and the movements and dynamics of our affective life and, even, the patterns of movement 'whose general characteristics are similar to bodily movement symptomatic of human emotions, moods or feelings' (Shove and Repp, 1995:58). Empirical research in musical performance (Clynes, 1980; Gabrielsson, 1994, 1995; Scherer, 1995; Gabrielsson and Juslin, 1996; Salgado, 2000; Juslin and Laukka, 2000; Juslin, 2001; Cox, 2001) has revealed that musical creativity concerned with the expression of emotional meaning presents gestures (vocal and kinetic) that can be considered as the parallel of structures between two sets of processes: *musical processes* and *processes of affective states*.

Since Hanslick's (1986) day, the idea that music can be related to some sort of movement and that its motional qualities can be heard as imitating the dynamics of behaviour and the dynamic qualities of

feeling has become an important topic of theorists and researchers. The understanding and identification of musical motion had a first and pioneer empirical approach during the early decades of the twentieth century through the work of Sievers (1924: Repp), Becking (1923-24) and Truslit (1938). Nowadays, the influence of Gibson's (1979) theory of perception and information made clear the need to reassess the concept of musical motion and its role in the performance and musical meaning has stimulated the empirical research to investigate the connection between expressive body movement and music.

The many different approaches to this issue tend to focus, according to Shove and Repp (1995), on four big topics: (1) the source of motion; (2) the organisation of motion; (3) the character, or quality, of motion; and (4) the listener's perception and response to motion. Sundberg and Verillo's (1980), Gabrielsson's (1982), Schmalfeldt's (1985), Shove's & Repp's (1995), Todd's (1995), and Clarke's (2001) accounts are some of the approaches that decidedly contribute for a better understanding of the relationship between performance and the perception of movement based on the information conveyed in the musical sound. According to Shove and Repp (1995), Clarke (1985) suggests that:

> *(…) a listener is apt to hear three different types of events based on the information in musical sound. The first type corresponds to (…): the musician playing an instrument or singing. (In other words, the listener does not merely hear the sound of a galloping horse or bowing violinist: rather, the listener hears a horse galloping and a violinist bowing). We call this a performance event. The second type is abstract and is often described as a structural event. Hearing structural events means hearing the articulation of motives, phrases, durational patterns, cadential progressions and so on. The third type of event is also abstract but corresponds to what Alf Gabrielsson (1973a, 1973b) calls the 'emotion character' of music, patterns of movement whose general characteristics are similar to bodily movement symptomatic of human emotions, moods or feelings. We call this an expressive event.* (Shove and Repp, 1995:57/58)

On the other hand, the study of the visual component of expression in live performance is, according to Clarke (1995), a much more recent field of research opened up by Davidson (1991, 1993). Her studies, also based in Gibson's (1979) ecological approach of perception, demonstrated that the body movements made by performers while playing contribute to the expressivity of the performance as judged by the audience. Davidson's demonstration seems to be mainly concerned with the detection of bodily movements as indicators of expressive intentions significantly linked to important music structural features provided in a notated score.

Meanwhile, there are other authors, like Shaffer (1992:265), for instance, who claim that performers, conscious or unconsciously, seem to use physical gestures associated with emotional states as a basis for shaping musical expression. Ultimately, it is possible to consider and experimentally to confirm that bodily movements functioning as indicators of expressive intentions linked to important music structures can also be seen as physical gestures given musical expression to emotional states presented through the music.

Concurring with the research of expressive behaviour, Cutting and Kozlowsy (1977) explored the nature of physical expression (in their work, 'expression' was the walker's gender and identity) and concluded that different parts of the body convey, even within a very short period of time, similar expressive information at different levels. For example, any two-second excerpt from an isolated body part such as the ankle would reveal information about gender and identity of the subject in question (Clarke and Davidson, 1998). Runeson and Frykholm (1983) demonstrated that covert mental dispositions are specified in movement and can be detected by observers. This evidence seems to concur with Johnson's (1987) view that "our reality is shaped by the patterns of our bodily movement, the contours of our spatial and temporal orientation, and the forms of our interactions with objects." Johnson argues that the structure found in abstract domains is only meaningful because we experience structure in bodily movements and interactions with the environment, and metaphorically map those patterns onto

experience in other spheres, interpreting it in their light.

It seems that this strong relationship between bodily movement and meaning can also be seen as the bodily basis of musical meaning. In this sense, Lidov (1987) and Jackendoff (1988) have proposed that the somatic nature of musical experience and the sense of motion attributed to music are both due to the mediating effect of a body representation.

Sundberg and Verillo (1980) suggest that what sounds appropriate in music does so because it mimics the behaviour of physical objects/bodies moving in the real world. Todd (1995) argues that the sense of motion is a characteristic perceptual response to music.

Stubley (1966) affirms that the body's role in musical performance is more than a physical execution; rather, musical performance is 'something done through and with the body'. According to her, the performance of music situates the body in a musical field where the music's movement and that of the performer are experienced and perceived as an 'on-going tuning process'.

Cox (2001:196) claims for an *embodied musical meaning* based on the idea that overt or/and covert mimetic participation is fundamental to musical experience. According to her, 'overt forms' of mimetic participation include toe tapping, dancing to music and singing along with the music, while 'covert forms' include sub-vocalisation and other aspects of motor imagery; both make part of the way we understand all of the overt gestures of music performance.

In fact, musical performance involves specific motor actions, and the understanding of these actions as Gallese and Goldman's (1998) suggest involves mimetic-imagery. Evidence from clinical studies measuring reflex activity, EMG activity, autonomic activity, and associated brain activity measured in PET scans and fMRI, suggests that we understand the movements, speech, and musical sounds produced by others in part via unconscious imitation of those we observe (Cox, 2001:199).

These results confirm the development research and infant studies of Stern (1985), Papousek (1996) and Trevarthen (1999/2000). As Trevarthen (1999/2000) argues:

> *Time of the mind is expressed in movements of the body. The rhythms which all movements show give evidence of what may be called the different levels of the Intrinsic Motiv Pulse or IMP. (…) The most intimate details of how we think and feel can be conveyed by the forms of expression that colour what we show and tell. (…) Patterns of expression become unforgettable and moving events, specially if we synchronise our appreciation of how they change, and sympathise with the emotion involved, for no expression of purpose and experience is devoid of emotional value, even if this emoting is just a matter of curiosity and investigative interest.* (Trevharten, 1999:157-213)

According to infant studies, behaviour of children is based in a *musical* interplay between mother and child. Infants imitate the vocalisations, facial expressions, and gestures of others around them and this gradually integration of the sensory-motor mechanisms of the body into higher levels of concept formation and metaphorical discourse is what has been referred as the notion of *embodied meaning* (Lakoff and Johnson, 1980). But, not only infants imitate adult's behaviour, adults imitate infant's behaviour, too. This mutual imitation promotes mutual understanding, and the overt form of children's imitative behaviour can be seen as active also in adults through a similar process but which becomes less perceptible and is known as 'imitative covert behaviour' (Walton, 1997).

Baddeley and Logie (1992) suggest that "if comprehension of spoken words ought to involve covert imitation, it seems reasonable to expect that comprehension of sung words ought to involve covert imitation as well." (Cox, 2001:200)

In fact, studies of motor imagery (Gallese and Goldmann, 1998; Fadiga and Gallese, 1997; Fadiga et al., 1998) report experimental evidence which suggests that understanding the observed behaviour of others involves imagining performing the same or similar actions. As Cox (2001:199) writes: "Since human musical performance involves specific motor actions, these studies on mimetic motor imagery

become relevant for conceptualisation of music as performed."

Fónagy's (1962, 1967) investigation on emotional speech reveals interesting similar set of results. He demonstrated that there is a close correlation between visible and normally invisible body movements. By carrying out a research on how much information of the facial expression a listener can infer just from listening to the voice, he found evidence of concomitants movements, both glottal and articulatory equivalent of facial gestures. Every attitude is expressed by its own articulation (and glottal) pattern which reflects the mental contents of the attitude. According to Sundberg (1982:145), Fónagy wants to interpret this as "a materialisation of the state of emotion, a re-interpretation of it into a movement."

These findings suggest that every emotional attitude can be expressed by different sorts of movements, different modalities of communication. Clynes (1969, 1980) seems to corroborate these findings by arguing that phonatory and articulatory gestures are manifestations of a common expressive dynamic form which underlies both the perception and production of expression in different modalities. Clynes's (1977) "sentics" theory emphasises that emotion and its expression form a unit, an integrated system and that an emotion ("sentic state") may be expressed by different output modalities, such as "gestures, tone of voice, facial expression, a dance step, musical phrase, etc" (Clynes, 1977).

Thus, in other words, it seems that expressive body movements can be translated into acoustic terms in voice production, and *vice versa.* That is exactly what Salgado (2000, 2001) has demonstrated by exploring the correlation between acoustic and visual concomitants of emotional expression in singer's performance as perceived by an audience.

Amstrong *et al.* (1995) seems to share a similar opinion as he, by comparing overt gestures and speech, writes that:

> *…the difference is not in the form of production (both are articulatory movements of the body), but in the form of the signal. Some articulatory movements result in primarily acoustic signals. Others, including semiotic 'gestures' as well as natural signed language, result in primarily optical signals.* (Amstrong et al. 1995:45)

Intentions

The portraying of an emotion in singing is, certainly, determined by a highly complex mixture of factors. Music, text, interpretation, context, voice technique and articulation, bodily movements, singer's personality and interactivity with the audience seem, altogether, to play an important role in the music-emotional expressive outcome.

According to Manen (1974), historically, *Bel Canto* vocal technique was a musical exploration of the different vocal expressions for the different emotional states. So, in a practical way there has been an exploration of vocal emotion in the performance of singing of the Western Art Music Canon ever since opera was born in the 16th century, but few systematic empirical studies.

Of the existing empirical work, key research has been undertaken by Kotlyar and Morozov (1976), Sundberg (1982), Sundberg *et al.* (1995), Juslin (1999), Scherer *et al.* (1995, 1996), Ohghushi (1996) and Salgado (2000, 2001) who have demonstrated that when singers were asked to sing with different emotional intentions, say, of Joy, Sorrow, Anger, Fear, or even with no emotion at all, very different spectrographic analyses of the vocal sounds emerge.

The existing amount of empirical work concerning the acoustic concomitants of emotional expression in singing is, though meagre, sufficient to pull out of it some conclusions about the way listeners infer emotion from vocal cues and how this set of cues is being used by performers in order to achieve communication of emotion. However, the complementary empirical research concerning the visual concomitants of emotional expression in singing, with the exception of Ohghushi (1996) and Salgado (2000, 2001), is practically inexistent.

These researches have build up on the evidence on emotional facial expression (Ekman and Friesen, 1978), on the expression and nature of the emotional facial expression (Ekman, 1984), on the argument and evidence about universals in facial expression (Ekman, 1989), about the universal and innate character of emotional facial expression (Izard, 1994), and the studying and recognition of emotional

expression using synthesised facial muscle movements (Scherer et al. 2000). Basically, the research undertook on the visual concomitants of emotional expression in singer's performance has focused only, and so far, on the qualitative analysis of the recognition of the emotion expressed in singing. This has been achieved by forcing listener's response to the perceived acoustical and visual elements of the emotion expressed through a set of adjective scale choice concerning the type of emotion that he/she is supposed to recognise through them. And, by differential inquiring and rating scales about the intensity or mode (Exaggerated, Proper, Deadpan and Less) by which the required emotion has been recognised.

The intention of this paper is not to focus on the qualitative analysis approach of the emotional expression in singing, rather to focus on the quantitative results extracted from the emotional content of the facial expression of the different sung performances. In this experiment, the musical phrase from Schubert's *Lied* "Erlkönig", 'Mein Vater, mein Vater!", was sung with 5 different emotional intentions or contents (Fear, Anger, Sadness, Happiness and Neutral). By comparing the expressive elements of the facial movements of the different emotional expressions within singing performances, the analysis data revealed quantitative significance regarding the measurement of the distance and velocity of the different emotional expressions.

Method

An experienced male professional singer was the participant in this study. He prepared and sang a series of musical phrases from the *Lied* repertoire expressing different emotions (Happiness, Sadness, Anger and Fear) fourteen times on each emotion. These interpretations were recorded with the *ProReflex* camera system which captured the movement and the gestures of the face by detecting the position of reflective markers, attached to the head and face of the participant.

By using three cameras to view the participant from different angles, the marker's position in space could be calculated from the "flat" pictures seen by each camera. The 3-dimensional data were automatically calculated and stored in a personal computer, where the recorded movements and gestures could be played back and analysed.

Interview data can be touched upon here to show that the singer believed that his emotions were 'authentic' in that they were constructed out of memories of those states. However, he was able to recognise that in their different interpretations some were more 'successful' than others.

Results

Empirical evidence revealed substantial differences between facial expressions of the singer when singing with the different emotional intentions. The difference between emotions was quantified by two different approaches: first, by comparing the average distance for each marker across the different expressions of emotional musical meaning and second, by comparing the average velocity for each marker across the different expressions of emotional musical meaning. (See Fig. 1 and Fig. 2 below)

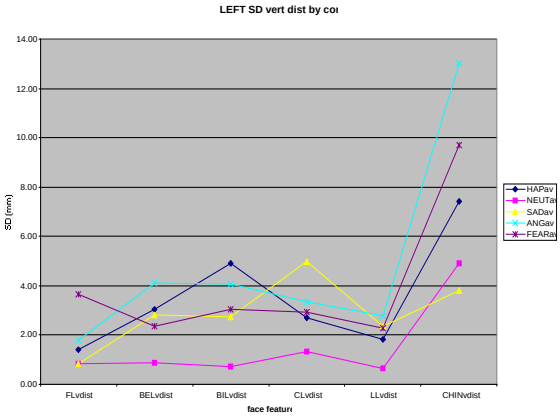

Fig. 1. Distance in Different Expressions of Emotional Meaning

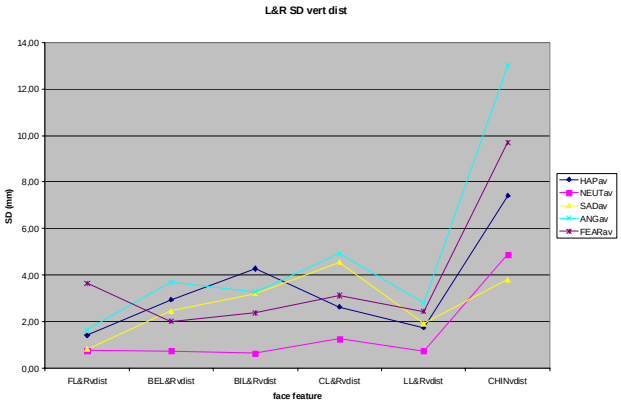

Fig. 2. Velocity in Different Expressions of Emotional Meaning

Conclusions

By simply observing the two graphs, it is apparent that within the signifying process of singing facial behaviour plays an important role when communicating and interacting with the audience. Singing and the study of singing as creative and meaningful activities, require an appropriate set of expressive tools that need to be identified by the singer and brought to a conscious level of awareness in order to be able to explore the expressiveness of their characteristics and of their meaning.

This study concluded, an interview with different elements of the audience suggested and corroborated the clearer profile of the different emotional content presented through the facial expression in singing. The general opinion was that the facial and vocal keys performed were more clearly and accurately recognized through the visual aspect of the communication. The singer, himself, was convinced of his interpretation but, nevertheless, felt that some of the performances were expressively more authentic than others.

According to the graphs that summarise the final results, it can be seen that there was a clear and perceptive quantitative difference among the several emotional expressions performed within singing. Through the results of this research, a contribution to a higher level of self-perception within the performance of singing and, consequently, to a higher level of musical performance and musical meaning expression is sought.

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Piano Exercises for Curing Playing- Related Disorders and for Acquiring a Functional and Natural Approach to Piano Playing

by Peter Feuchtwanger

This is the third and final part of a trilogy by Feuchtwanger dedicated to ergonomic issues in piano playing. It is gratefully reprinted here from his site: *www.**peter-feuchtwanger**.de*

During a long career as a piano teacher I have come across a growing number of pianists with tendinitis, ganglions or even worse problems such as focal dystonia. These complaints leave them unable to realise their musical intentions, often resulting in a loss of inner hearing. Watching pianists at work one quickly realises that most of them use non-functional movements which could lead to serious physical damage. My exercises help to correct this [for more information, please see www.peter-feuchtwanger.de].

Even amongst well-known pianists there are many who are constantly seeking medical attention, and some have completely lost the use of their right hand. Of course, there are also those pianists, maybe of a more robust constitution, who are lucky enough not to suffer the consequences of their un-functional movements. The purpose of my exercises is to allow every pianist to eliminate his bad habits and rediscover a natural approach to playing, and to ensure that children do not develop bad habits in the first place. Harold Taylor writes in his exemplary study, *The Pianist's Talent* (London: Kahn and Averill, 1979, revised edition 1994).

The human body is an indivisible entity, in which the behaviour of any single part is dependent on the relationship existing between all the parts. Posture is therefore a totality which must take into account both the position and condition of its components, because the condition of one part modifies the position of its adjacent parts, and vice versa, throughout the whole structure.

If pianists paid more attention to such advice, many disabling conditions could be treated or

prevented. For instance, Glenn Gould, despite his perfect use of hands and arms, sat so low at the keyboard that he lifted his shoulders unnaturally, leading to back pain, numb fingers, and immense strain on his neck. The tension incurred by such faulty posture may even have been partly responsible for his premature death. By contrast, Louis Kentner, who sat almost as low as Gould but used his body correctly, suffered no ill effects and played magnificently well into old age.

Unfortunately, some teachers are less than helpful to their students regarding the physical aspect of piano playing. I once happened to be sitting next to a respected French pianist and teacher on the jury of an international piano competition. As one of the competitors played, he turned to me and complained about her exaggerated and un-functional movements. Surprised, I remarked that she was one of his own students, and asked why he didn't tell her about her bad habits. But he insisted that it was not his duty to correct such physical shortcomings.

Let me give another example. A colleague, a professor at a prestigious music college, asked me to look after an extremely gifted student whenever he went on concert tours. During one such period I failed to hear from the student for some time. When she finally rang me up and I asked the reason for her protracted silence, she confessed to having developed tendinitis. When I asked what her teacher had suggested she should do, she replied, He told me either to stop playing, or have a cortisone injection, or learn the Bach/Brahms Chaconne or the Ravel Concerto for the Left Hand. (Such advice is, sadly, not uncommon.) I told her that should she practise these pieces the left arm could also develop tendinitis. I suggested she see me at once and after a week of practising my exercises she was completely cured!

I would like to take a little time to describe how I came to devise these exercises. In order to do this I have to go back to my early years which had a direct influence on devising these exercises. Owing to my poor achievements at school I was not allowed to have piano lessons as a child. In any case, following our emigration we had no piano at home. So I often played truant and went instead to visit a neighbour - an elderly lady from Munich - on whose piano I was able to try out everything that I'd heard on gramophone records. (I was unable to read music at this stage.) I played all the Chopin Studies according to recordings by Cortot and Backhaus, nearly all the Beethoven Sonatas as played by Schnabel, and many other piano pieces. As I had perfect pitch and both our home gramophone and that of my neighbour ran too fast, I played all these works a semitone higher than written. When I subsequently heard them at the right pitch in concerts, I immediately and without difficulty corrected my performance. Thus, I learnt how to transpose in a completely natural way (and I believe it is very important for my own students to develop the same skill if they can).

When I was thirteen, my parents finally allowed me to have piano lessons. My first encounter with a piano teacher, one of the most respected in town, went something like this: "Have you ever had lessons before?" "No." "So, can you play something for me?" "Yes." "Well then, show me what you can play." I played 'La leggierezza' by Liszt, with the alternative ending as played by Simon Barere on my recording. It seems that my performance must have excited the teacher, for he fetched his wife from another room and said, "Listen! The lad's never had a lesson and plays better than my most advanced pupils." I had to play the piece again for his wife. His next question was, "Can you read music?" "Yes," I lied, ashamed to be unable to play a single note at sight. He opened a volume of Beethoven at an Adagio. I thought it might be the first movement of the Moonlight Sonata, and played it as I knew it from Schnabel's recording. He opened another volume, again at a slow movement - the second movement of the "Pathétique"? When he gave me a third test, once more with a slowish tempo marking, I played the second movement of the "Appassionata".

When I'd finished, he said, "Peter, why don't you admit that you can't read music? For one thing, you played the wrong sonata each time; for another, everything was a semitone too high; and besides, you never once looked at the music. And by the way, "La Leggierezza" is in F minor, not F sharp minor." He played me the opening in the right key. Embarrassed, I admitted that I'd never learnt to read music. He asked me to play "La leggierezza" again, which I did, this time a semitone lower and - as always - with a flat hand. He said, "You must play with rounded fingers, as if they were little hammers. Imagine you're holding an apple." (How often I've heard these words from other teachers much later in life!) As I didn't play

nearly so well when I followed his advice, I never returned to this teacher.

Shortly afterwards, I began studying with a former pupil of Emil van Sauer and went to an old lady who'd played to Clara Schumann in her time. Both recognised at once that I had a completely natural technique and didn't interfere.

What I teach today, including the exercises I devised, is based on these early experiences and on observation of other pianists with a natural technique. The best example is Clara Haskil, who despite severe scoliosis (curvature of the spine), had the most natural approach to the keyboard of any pianist I can remember. She told me that she had played the piano from her earliest childhood and that no one had ever needed to teach her technique.

One might also recall Rachmaninov or Horowitz, who even during the most hair-raising feats of bravura remained very still. Beethoven seems to have had a similar approach: Czerny said that:

> *his posture during playing was exemplary, quiet, dignified and beautiful, without even the merest grimace (only through increasing deafness he crouched over the keyboard).*

I have many memories of the magnificent Youra Guller, sitting regally at the piano, for all the world a goddess attired in a red Lanvin evening gown, producing amazing fortissimos with no apparent physical effort. And how ugly the behaviour of many a modern jazz pianist compared with Fats Waller, who sat so quietly, yet performed uncanny leaps with his left hand.

Absurd movements and mannerisms at the keyboard appear to have been rife for hundreds of years: they were a cause for comment by Girolamo Diruta as early as the sixteenth century. Likewise, Couperin felt the need to write on the importance of beautiful bearing at the keyboard in his *L'art de toucher le Clavecin* of 1716 (though his advice to turn to the audience with a smile whilst playing shouldn't be taken too seriously nowadays - this option ought perhaps to be reserved for the wonderful David Helfgott!).

The most strongly-worded description of unnecessary physical indulgence at the keyboard is to be found in Daniel Gottlob Türk's *Clavierschule* of 1789:

> *All manner of unacceptable behaviour, expressions of delight and facial grimaces; the stamping of the feet; the marking of the metre by unsightly body movement; the shaking and nodding of the head to and for; the snorting during a trill or a difficult passage: all of these and more cannot under any circumstances be condoned or excused, regardless of rank or gender. Neither should politeness or indulgence allow any consideration for the fairer sex. Music may be perceived solely through the ears, but there can be no excuse to offend the eyes. Many a musician who delights with his performance weakens an otherwise good impression when his caricature-like behaviour induces laughter, or when his apparent convulsions instil fear and horror in those present.*

The young Liszt played with excessive and exhibitionist gesture and movement, though not in his later years when he sat absolute still. At the end of one of the young prodigy's recitals, John Field turned to the person next to him and asked in mock horror, "Does he also bite?" Returning to our won times, have you ever watched a pianist (or indeed any instrumentalist) on television without the sound? It can be a memorable experience, for all the wrong reasons!

I've often been asked whether I studied Alexander Technique or the Feldenkrais Method, or even martial arts. But I came to know all of them long after discovering the most natural way of playing the piano, and they merely confirmed that my approach is correct and that we should strive to achieve as much as possible with minimum use of energy. My exercises help the player to reach this goal. When demonstrated, the exercises appear easy, as if anybody could do them at once. Surprisingly enough, this has never yet been the case. Once one has mastered them, though, one cannot understand having been unable to perform them straight away.

The exercises can only be taught by demonstration, not by writing about them, but I shall now endeavour to outline some of the main principles. Their most important initial effect is to allow the player to discover that

rather than playing on the piano, he should **regard the key as an extension of the finger** (which means that the basic position of the fingers is flat rather than curled).

The fingers don't strike the keys but manipulate them: we don't need to raise the fingers, just release it so as to allow the key to bring it up. The fingers, or the hand, leap off the keys rather like a flat stone that is skimmed over the water in a ricochet action. The hand is brought back to neutral position as quickly and as often as possible without interfering with the arms natural weight.

The wrist is always loose; the arms and elbows follow, without interfering, the movements which are initiated by the fingertips. When the fingers play the thumb remains free. The right hand generally makes elliptical movements anticlockwise, the left clockwise.

It is very important that everything is the result of an impulse and that nothing is prepared. When playing an octave, for example, the hand opens at the last moment; it should not be fixed in position beforehand. (After all, I don't let my mouth hang open before saying hello!) This of course concerns single octaves as when ever a pianist plays a cascade of octaves after the unprepared fist octave there will be no time to close the hand for the ensuing ones.

We must seek never to hold the arm rigidly. One might compare moving from one position to another with a dancer's leap: even Nijinsky was unable to remain in mid-air but returned elegantly and smoothly to the ground, landing on his toes rather than the soles of his feet. Similarly, a pianist should arrive with his fingertips first, without tensing the wrist (try to imitate a parachute landing).

Gradually, you learn to think in terms of making a movement hat enables you to take in the keys in a larger gesture. In the martial arts, one takes advantage of the opponent's indwelling energy to overcome him, and similar principle should apply in piano-playing (though it would be unwise to regard the piano literally as an opponent!).

The exercises are designed to rid the player of bad habits acquired over many years. They result in a completely new and free system of fingering, and revive the all-important elasticity of the hand that has in many cases been lost. As both Alexander and Feldenkrais observed, we often feel at home with bad habits; some people have no idea, either in everyday life or at the piano, which gestures are functional and which un-functional. But no one shakes hands with curled fingers or as if holding an apple in the hand, and there is only one natural way of taking hold of an object such as a glass of water.

There are many ways of playing the piano, but only one that is functional, and only one ideal way of sitting at the instrument: the elbows should be in line with the keys, and, above all, the neck must always be free. Many books concern themselves with matters of freedom of movement, and I recommend that everyone read both *Zen in the Art of Archery* by Eugen Herrigel (London: Penguin, 1985) and Harold Taylor's already-cited *The Pianist's Talent*. The writings of Alexander and Feldenkrais are also of great significance.

My exercises help those suffering pain (whom they generally cure completely), but also serve healthy pianists. They are as useful to successful performers as to beginners, for they are designed not only to develop piano technique but also to refine our all-important sense of hearing: no one can play better than s/he can hear.

Intimately bound up with sensitive hearing is the ability to imagine and realise a beautiful sound (which is becoming more and more difficult in a noisy, *muzak*-dominated age that seems determined to dull our sensibilities). Many of today's pianists appear to be obsessed with loud playing (often leading to physical tension), yet seem incapable of producing a beautiful, clear, round forte. My students find that practising the exercises allows them to discover how to maintain beauty of sound throughout the dynamic spectrum without apparent physical effort by learning to listen to themselves and imagine beforehand the sound they wish to produce.

Finally, I should like to claim that the function of my exercises is as much psychological as physiological (in so far as these aspects can be separated at all). The release of physical tension is an important step on the way to resolving psychological problems, and thus my exercises can lead the individual to self-discovery and greater inner peace.

Peter Feuchtwanger, internationally recognised pedagogue, lives in London and is in demand in many countries. His book and DVD are available from his website www.peter-feuchtwanger.de.

PIGS FLY?
THEY CAN'T EVEN RUN!

By Steven Rodman

N.B. This is the author's 3rd and final article in a series on posture.

Abstract:

The *Grindea Technique*, a mental technique, has allowed many people to 'order' an exhilarating state of being (Grindea 2001: 8). In many ways, it reflected Carola Grindea's strength of character. Others, myself included - and *as the Irish joke goes* - need to start from somewhere else. Here follows a report from John Dewey (1859.1952) inspired by his sessions with F. Mathias Alexander (1869-1955):

> *Recently a friend remarked to me that there was one superstition current among even cultivated persons. They suppose that if one is told what to do, if the right end is pointed to them, all that is required in order to bring about the right act is will or wish on the part of the one who is to act. He used as an illustration the matter of physical posture; the assumption is that if a man is told to stand up straight, all that is further needed is wish and effort on his part, and the deed is done… A man who does not stand properly forms a habit of standing improperly, a positive, forceful habit. The common implication that his mistake is merely negative, that he is simply failing to do the right thing, and that the failure can be made good by an order of will is absurd…Only when a man can already perform an act of standing straight does he know what it is like to have a right posture and only then can he summon the idea required for proper execution The act must come before the thought, and a habit before an ability to evoke the thought at will The only way of accomplishing this discovery is through a flank movement [Alexander sessions]* (Dewey 1922: 27).[7]

In this and my previous two articles I have been attempting to resolve this all too evident state of affairs in respect to the Grindea Technique, that is, those who have never experienced a good posture have no reference point, for *some* cognitive awareness needs to pre-inform any attempt at postural adjustment. I have named this approach *Grindea II* – a systematic physical and cognitive preparation to Grindea Technique. This then is *my* flank movement.

The Cervical Spine

The Cervical Spine (Fig. 1, Grey: 1918), according to Dr. Hara Trouli:

> *…refers to the part of the spinal column that descends just below the skull and reaches above our shoulder blades at the back. This is the part that so often gets 'stiff' and 'knotty' and sometimes makes 'cracking' noises when we move our head sideways or up and down. The cervical spine is made up of seven vertebrae [C1 – C7] stacked on each other more or less like the rest of the spine.* (Trouli 2007: 9) [8]

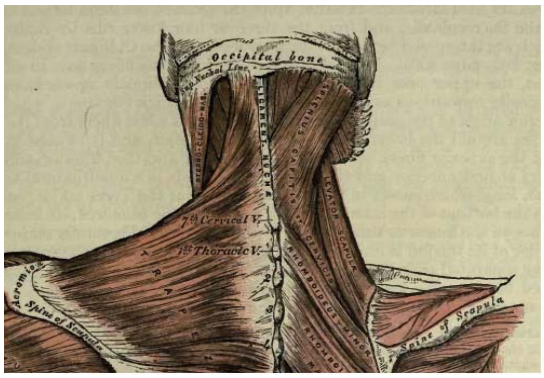

Fig. 1. The Cervical Spine.

Another *ISSTIP* investigator, Damjana Zupan, of Slovenia, notes:

> *…In researches done with performers it has been proved that the neck is one of the most sensitive areas of our body. In a study of 100 musicians of international repute published by Irene Samuel in her book* Musical Maestros, *38 of her interviewers claimed that 'tension in the neck' is a symptom of stage fright, and it is the second most often mentioned..'* (Zupan, 2005: 23) [9]

The cervical spine *should* then be of special interest to those in the performing arts, but how to get the right placement?

The Royal Muscle

In his prescription for exercise of the neck extensor group (*splenius cervicis* - Fig. 1) S. S. Curry, a very influential writer on public speaking in the early 19th century, described a posture of the head which has lost none of its relevance today:

Activity of the Royal Muscle

> *Lift the head as far back as possible, then slowly draw the chin in lifting the back of the head high. This exercise develops what sculptors call the royal muscle. This muscle is active, causes an erect head and gives a certain dignity to the carriage of the body …. It is at the summit of the line of gravity and affects not only the carriage of the head but has a sympathetic effect on the chest. When it is strong and vigorous it tends to make the whole body erect and to bring into sympathetic co-ordination all the muscles used in standing.* (Curry 1915:74)[10]

In modern orthopedic parlance this is usually referred to as the 'chin tuck' exercise. It was also one of Bernarr Macfadden's basic exercises forming, for him, the basis of the perfect posture:

> *As will be shown in the succeeding chapter, it is not necessary to make extraordinary efforts to hold the shoulders back or to arch the chest. The one idea - chin in, down and backward - will accomplish all that is needed. The chest and shoulders will naturally take care of themselves… The position of the head, to a very large extent, determines the general posture of the body. As nearly as possible the chin should be held inward, downward and backward.*[11] (McFadden 1915: 10)

William Bowen, founder of the first teacher training college for PE, writing on anatomy and physiology has this to say:

> *The head, neck and upper thoracic spine are moved upward and backward as far as possible with the chin held down. It is made more effective by taking a deep breath at the same time. The advantage of holding the chin down is that the ligament of the neck aids in holding the spine up where it should be if kept taut by not letting the head rock backward. This exercise is apt to be difficult for beginners to coordinate because it involves the strong contraction of the splenius and upper portion of the erector spinae group without any increased action of the extensors of the lumbar spine-an unusual movement.*[12] (Bowen 1919: 259)

The message from these authors is, as Curry puts it, that the neck extensor group are *active* – meaning, during all activities when the body is erect, they are in contraction. This is an important point to take away when considering upright posture; we should, when attending to it, feel *some* tension at the back of the neck.

The Nuchal Ligament (Fig. 1, Gray 1918: 291 [13])

With his mention of the ligament of the neck Bowen, interestingly a professor of sports physiology, touched upon what has lately become a substantial theory in human evolution. Up until recently this ligament had been relegated to a vestige of some earlier evolution:

> *In man it is merely the rudiment of an important elastic ligament, which, in some of the lower animals serves to sustain the weight of the head.*[14] (Gray 1918: 433)

Writing in *Nature*, Bramble and Lieberman on their theory that we evolved to endurance run:

Another possible structural modification relevant to running is the nuchal ligament, a convergent feature in Homo (first evident in an early humanoid, KNM-ER 1813)

> *and other mammals that are either cursorial (for example, dogs, horses, hares) or have massive heads (elephants). Interestingly, a nuchal ligament is absent in*

> *chimpanzees 4,31 and apparently in australopithecines (as evinced by the absence of a median nuchal line).*[15] (Bramble & Lieberman 2004)

In a later publication they state quite confidently:

> *That said, the available evidence suggests that Australopithecus lacked many, if not most, of the derived features of Homo that improve [endurance running] performance. Some of these derived features, such as relatively large anterior and posterior semicircular canals, and the nuchal ligament, are specific to running.*[16] (Lieberman & Bramble 2007: 88)

Why is the nuchal ligament important in running? What has it to do with performance in the arts? Let me put two and two together for you. As Irene Samuel observed (and any performer could tell you) tensions in the neck are preponderantly reported as symptoms of stage fright. The neck extensor's role, as I'm sure Bowen was aware, is to tighten the nuchal ligament as it does in other cursorial animals; this allows it to hold the head steady during running.

Pigs haven't got this ligament – ever seen a pig run? Its head bobs all over the place, which makes running for any significant distance impossible. Take into account the *real* nature of stage fright – adrenaline caused by the fight or flight mechanism, and you have your answer. A tense neck is the body preparing to run!

Forewarned with this knowledge we need to take S.S.Curry's and Bernarr MacFadden's advice and *start* with some tension in the neck extensors as part of our habitual posture. Be your own king or queen - adopt a royal poise. In this way when adrenaline hits, which is pretty much inevitable, it will only evince a more acute sensation to one already acquired and encultured.

An Exercise

Anatomically, the head is designed to hang from the nuchal ligament:

> *The* ligamentum nuchae *extends from the spinous processes of C7 and T1 and attaches into the external occiputal protuberance. The anterior placement of the head to the neck causes a flexion moment on the head and this is checked by the ligamentun nuchae. The supraspinous and interspinous ligaments blend with the nuchal ligament.*[17] (Deepak 2005: 46)

The more we can cultivate this feeling of the head hanging from the nuchal ligament, the more we will not only be prepared for stage fright but also attain an improved posture.

Below is an exercise for just that (Fig. 2[18]). In the first stance be sure everything is hanging loosely from the lower back. As you straighten up, do so from the lower back, gently unbending from the lowest vertebrae. As in the third stance, the back should be upright but still the head hanging – throughout these stances keep the head hanging. From the third stance onwards concentrate on contracting only the neck extensors – draw your neck back with them – until your head is erect. It may still feel that your head is pointing down (as your gaze *is*), but this will not be the case.

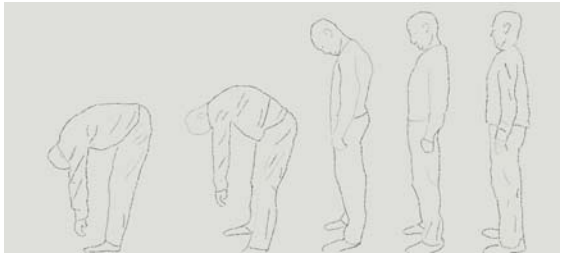

Fig. 2. Postural Exercise (from the author's unpublished archives).

I'll leave the last word with Ida Rolf:

> *When I talk about the upright placement of the head on the neck, I am also talking about using the evolutionary possibilities of human structure. Only by getting verticality in the body do you explore these possibilities. The minute you lose verticality, that minute you have lost the something plus that is available to humans.*[19] (Rolf 1990: 74)

MEDICAL COLUMN

Meet the Experts

by Hara Trouli

This is a new column in our Journal where ISSTIP will be interviewing professionals in the field of Performing Arts Medicine and ask for their advice on matters that concern the performing artists' well-being and health.

We are thrilled to have the opportunity to interview in this issue a doctor with extensive experience in the field of Voice Care, **Mr D.Garfield Davies.**

D.Garfield Davies is a Consultant Emeritus Otolaryngologist to the Middlesex and University College Hospitals, UK. He is also Laryngologist to the Vocal Faculty of the Royal Academy of Music, the Trinity College of Music, the Royal Shakespeare Company, the Royal Society of Musicians, the Royal National Theatre, the English National Opera and the Royal Opera House in London. He has written - together with Anthony F.Jahn , the doctor to the New York Metropolitan Opera - the much acclaimed book **'The Care of the Professional Voice'**, which is now in its 2nd edition, published by A&C Black, London.

Mr Davies, you have been working with classical and popular singers for many years and your experience is vast. Do you find that the level of awareness in the music world with regard to worrying health signs has changed with time?

In the field of musical theatre there is undoubtedly an awareness that lead performers cannot sing in nine shows a week. Management have at last realised that the vocal folds (cords) are largely composed of muscle and they tire and weaken with overuse. Performers are vocal athletes and require recovery time between "races". Sadly in the pop and musical theatre world directors still do not take into account whether or not the artist has sufficient training to undertake a given part or role. As television now plays such an important part in the lives of performers, not infrequently good ' looks' tend to be the priority of management rather than the candidate's vocal ability and past training.

There are certain factors that affect the human voice and particularly with singers these factors should be well known and their lifestyle should be adjusted accordingly. Could you please outline these factors?

Anxiety in performance can be a major factor and the voice is a sensitive barometer of anxiety. Benjamin Britten said the " The artist has one skin less - he is hypersensitive to criticism and not infrequently superstitious". Performers can go through periods of 'self sabotage' and recall their memorable appearances for only as short time but never forget the bad performances. It can be helpful in periods of self –doubt during times of stress, for the performers to have a joint consultation with a laryngologist and a voice therapist and see a visual image of their larynx

Performers should avoid noisy gatherings and parties in the days before their vocal commitment as the voice has to be projected above the background noise and this induces vocal fatigue. Environmental dryness is the enemy of singers and ideally vocal 'warm ups' should be carried out in a warm moist environment - ideally in a shower!

Smoking tobacco causes irritation of the throat and the chest and cannabis can be an

even greater problem. Many females who are heavy smokers notice that their voices over the years become far deeper due to gross swelling of the edges of the vocal folds. This not infrequently causes them to sound like a male. Alcohol should be consumed in moderation and certainly not taken before any performance for it gives a sense of false security. All singers and actors should aim to improve their general fitness for this improves general muscle tone.

To your professional opinion, which conditions are the ones that a singer should have in mind and be able to recognise their early symptoms?

Singers and actors should realise that if they experience soreness in the throat after a performance, this indicates an element of vocal strain. The voice is damaged by using (a) the wrong force (b) the wrong pitch or (c) the wrong breathing. If on reflection the performer cannot determine the technical cause, he or she must consult their singing teacher or vocal coach.

If a singer develops a breathy voice and has difficulty singing notes in the higher register, then it is likely that he or she may have developed the early symptoms of vocal nodules. A visit to a laryngologist is then indicated and if indeed nodules are found then voice therapy is indicated. All performers must fully realise that if a note cannot be sung softly then it should not be sung at all.

Sometimes vocal fatigue can be a symptom of acid reflux (gastro-oesophageal reflux) and it can be associated with frequent throat clearing or a sensation of a lump in the throat. Performers rarely eat a heavy meal before a show and consequently dine late at night and retire to bed soon afterwards. Lying flat with a full stomach encourages reflux .It is far better to have a large lunch and a lighter meal in the late evening.

A dry throat may be due to allergy or a blocked nose. If the nasal airway is limited then dryness will ensue as the nose not only has an olfactory function but also warms the air and humidifies it. A simple normal saline nasal spray may solve the problem.

If and when a singer is concerned about their voice, which are the first steps they should take in order to seek advice?

The concern may be stress related. Mild anxiety before performance is natural and essential to give a sharp rendition otherwise a lack-lustre performance will result.
Stress can be reduced by adequate preparation and only accepting scores well within ones capabilities. Adequate rest is essential and the performer must avoid the pressure of agents and ' greed' to perform too frequently. Good hydration and nutrition are mandatory.

If they are healthy and stress is not a major factor then they should seek advice from their singing teacher to rule out any technical problem. If however they are getting over a throat or respiratory infection then reassurance from a laryngologist will be helpful

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Are there any 'first aid' tips you could give to the singers when they feel that they have either lost their voice or the quality of their voice has changed?

Try to determine the likely cause. Is it due to overuse or abuse or due to technical errors? Has this happened before? How was it dealt with? A simple recall of the events of the past week or so may throw light on the aetiology of the problem. If they were getting over a bout of laryngitis then total vocal rest for 48 hours followed by relative vocal rest for another two to three days should be very beneficial. After this gradual warm up exercises in the middle register should be attempted and then the range should be gradually extended over the next week. Try to speak with an 'open throat' and avoid whispering and shouting.

Young voices or smaller voices should not be pushed into heavy roles. Lyric sopranos in their 20's should not attempt the heavier Verdi repertoire. Fine small voices should 'cross over' to popular repertoires where amplification displays the beauty and musicality without the demand of the operatic stage.

In the lifetime of a singer, their voice goes through many changes. Could you tell us in brief what a young singer male or female should expect from their voice as they grow older?

Ageing is gradual and a lifelong process and results in structural and functional changes in the larynx. Mature voices also reflect compensatory strategies – adopted consciously or unconsciously by the vocal artist. The ageing voice loses power and resonance and changes in pitch are more noticeable in males. The male voice drops until the 5th decade then gradually rises and becomes thin, reedy and breathy. In both sexes there is a loss of muscle mass, suppleness and muscular fine control.

During the menopause the lack of oestrogen leads to changes in muscles and the mucosa of the vocal tract. Drying, thinning and atrophy result for the drying, thinning and atrophy seen in the mouth, eyes and genital tract may affect the larynx. If HRT is taken it should be carefully monitored. Seek advice from a sympathetic gynaecologist.

In the ageing voice efforts should be made to improve general muscle tone and especially in the neck, back and abdomen. Avoid press-ups, weight lifting and jogging. Rapid walking swimming and aerobics are fine. The older voice should undertake vocal exercises with an experienced singing teacher who concentrates on agility, flexibility and the support rather than forceful pushing at the extremes of range. Professionals in there 60's should avoid the taxing roles of their 40's and accept more lyric than dramatic roles and so emphasize the remaining beauty of the voice. On tour there should be increased rest and recovery between commitments.

Often singers and particularly students confuse the work of the voice therapist with the work of the ENT surgeon or Laryngologist. Could you please clarify the services each profession can offer to the singers?

An Ear Nose and Throat (ENT) surgeon deals with medical and surgical problems of this region. A Laryngologist is a trained throat surgeon with a special interest in a wide range of benign and malignant diseases and problems of the larynx and vocal folds. He will with special equipment (mirrors, endoscopes and video-stroboscopy) diagnose problems of the "voice box" or larynx. He may on occasions have to undertake fine very delicate microscopic operations on benign lesions but occasionally have to carry out very extensive surgery for malignant conditions. On the other hand not infrequently, he may refer the patient for a functional, rather then a pathological, problem to a voice therapist.

In the UK there are Speech and Language Therapists but a small subgroup specialise in voice disorders (Voice Therapists) rather than treating patients with swallowing disorders and helping patients regain speech after strokes etc. It is therefore important that the performer seeks help from a voice therapist rather than a 'general' speech and language therapist.

In North America the Speech and Language Therapist is called a Speech Pathologist. On the Continent there is a small group of physicians called Phoniatricians who work with a Laryngologist and offer voice therapy in their medical repertoire.

Mr Davies, we are very grateful for your advice and for your on going contribution to the wellbeing of the singers and to the education of doctors and teachers. We are certain all the information and advice you provided us with will be very helpful to singers and actors of all musical genres. We thank you for your time.

RESEARCHERS' ARMCHAIR

VITALJACKET®, A MOBILE, CONTINUOUS ECG WAVE TOOL

By Nancy Lee Harper

A Portuguese invention called *VitalJacket®* has been the subject not only of my research but that of two of my doctoral students at the University of Aveiro. Created at this university, this non-invasive continuous electrogram wave instrument with Bluetooth technology comes in various wearable modes. Before mentioning the use in my experiments, I will begin by citing VJ information by the company that produces, *Biodevices* (www.biodevices.pt), noting that even the Pope has one.

The Equipment

> *The* VitalJacket® *is the first certified medical device combining wearable technology and mainstream biomedical engineering solutions.*

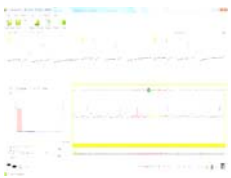
> *The VitalJacket® is an easy-to-wear t-shirt, very comfortable and reliable cardiomonitor. The fact that can be worn by the patient allowing at least 72 hours of continuous exams enables physicians to do a correct assessment of cardiac problems in an everyday life environment.*

> *The VitalJacket® includes a small (66x38x16 mm) lightweight (50g) box Digital Recorder that sits easily in a dedicated pocket inside the t-shirt. The recorder displays a simple and visible colour code that allows easy interpretation by both health practitioners and patients of all VitalJacket´s functionalities.*
>
> *VitalJacket is equipped with a Bluetooth transmitter, enabling users to view the signal in real time, before a recording takes place or during a training session. With this special feature, it is also possible to send the signal remotely to another location using either a computer or a PDA with an internet connection.*
>
> *VitalJacket is the only Holter system with an embedded accelerometer. These results are displayed in an easy to interpret scale (0 to 4) allowing the doctor to match cardiac frequency and arrhythmia data with the patients movement intensity.*

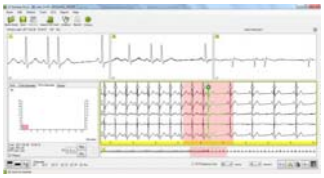
The *VitalJacket®* comes in two versions – 1 L and 5 L:

> *One lead ambulatory ECG for long term use (can store up to 5 days of continuous data) and is used in cardio training or cardiac rehabilitation exercise monitoring. VitalJacket 1L is the most comfortable medical device able to perform a continuous event detector: the cardiologist may analyse all events signalled by the patient as well as asymptomatic periods which can be associated with cardiac disease in real time or after a long period of monitoring.*

***VitalJacket* Motion 5L**



Five-leads Holter system is able to record 72 hours of continuous signal and is used for cardiac screening in patients with arrhythmias. VitalJacket Motion 5L can be worn by the patient for longer periods than other ambulatory ECG systems in the market. The access to increased periods of such clinical information allows doctors to do a more accurate assessment of their patient's cardiac problems in more natural, daily environment.



The ECG signal is automatically analyzed by VJ Desktop Pro software. QRS complexes are identified and separated by class and morphology. The software displays the results in easy to browse lists, tables and histograms enabling a quick visualisation of the most relevant events. All results from the automatic analysis can be edited by class or individually with either only two mouse clicks or smart keyboard shortcuts. Results, reports and analysis parameters can be adjusted to each patient and configured individually.

*VJ **Desktop Pro** may also be integrated into a Web Server which permits both downloading and uploading examinations and complete reports. VJ **Desktop Reader** is a complementary free software which enables different users to evaluate the ECG signal and the final clinical report and can be downloaded from our website. VJ Desktop Reader is the perfect tool to monitor patients during cardiac rehabilitation. This software enables doctors to set several parameters for each patient such as minimum and maximum cardiac frequency, age, height and weight. During a session the software will emit sound and display colour alarms for each patient when they fall out of the established values and will also calculate energy consumption and cardiovascular intensity.*

Applications in Research

My research using the *VitalJacket®* is fairly recent, having begun in November 2010. Currently, I have three projects using this technology, coupled with other diagnostic tools that will not be covered in this short article. The first project involves senior-level university pianists in a memory project. Their levels of stress and heart-rate were monitored in learning and performing situations using special memorization techniques of a 4-voice Fugue. The second project involves a study of the perception of silence by an oboist, a doctoral student of mine, in which both performer and two audience members are being monitored. The third project involves a chamber music duo (violin & piano) plus two audience members with the objective of measuring stress and heart-rate during performance. In each experiment, real-time videos were made of the entire performance.

During these three projects, it has been our experience that the equipment is not infallible. In the student pianists' experiment, one pianist in the control group was not registered properly even though we had filmed him correctly starting and stopping the equipment. The reading in the second experiment has been quite good. However, the reading in the third experiment once again did not function with the pianist either because the electrodes were not placed correctly or because her clothing was too tight to permit the reading to take place. The software analyses - done in real time – allow for very accurate comparisons. However, the complementary software that comes with the T-shirt package is not adequate for data analyses and thus requires either a 30-day free trial upgrade or an additional purchase.

Through these experiments, we have learned that the careful placement of the skin electrodes and the requisite 5-minute trial signal are fundamental to the proper functioning of the equipment. We are quite happy with the initial results, in spite of the few errors that occurred. The ongoing projects will no doubt produce scientific knowledge in the respective areas that will contribute to understanding more about performing musicians' stress and audience perception.

BOOK REVIEW
By Nancy Lee Harper

PSYCHOLOGY FOR MUSICIANS
Understanding and Acquiring the Skills
Andreas C. Lehmann, John Sloboda, Robert H. Woody (2007) Oxford University Press.

Theory and Practice: this fine and well-documented book is divided into three main sections: Musical Learning; Musical Skills; Musical Roles. It provides an extensive Literature Review of a multitude of themes and topics related to the main areas yet is well complemented on the practical side.

In Musical Learning, four chapters that comprise Science and Musical Skills; Development (overview); Motivation (various theories); Practice (macro perspective, p. 62); are covered. In Musical Skills, the topics of Expression and Interpretation ("magic", p. 85; Reading or Listening and Remembering; Composition and Improvisation (7 stages, p.143-144); Managing Performance Anxiety (the symptoms, the person, the situation, the musical task, p. 146); are presented. In the section on Musical Roles, the Performer (the visual aspect, p. 166; stress and medical problems p.183), Teacher (functions and relationships, p. 186), Listener, and User are each given individual treatment.

The book is not just a reference source, although an excellent one, but also serves as a manual for Self-study, offering Study Questions and Further Reading in every chapter. For example, an area such as "Key Events in Your Childhood Musical Biography" aims to help performers take charge of their own musical performance progress and emotional growth.

Tables, charts, musical examples as well as a vast bibliography, round out the impressive spread of psychological fare, leaving the reader to ask if there is anything else that could have been added.

ISSTIP AROUND THE WORLD

THE USE OF ALTERNATIVE THERAPIES IN MUSIC EDUCATION: BIO-MUSIC

By Claudina de la Caridad Hernández Bean, Cuba

Keywords: Musical Studies; *BioMusic*; Cuba; Emotions; Sound

Musical studies in Cuba

In Cuba, the musical studies begin after a selection process where the chosen students pass to be part of a gratuitous educational system. The instruments are studied with the objective of having **long-term study** (piano, violin and violoncello) with eleven years' duration beginning with 8-year old children, and **short-term study** (the other instruments such as winds, percussion, guitar) that consists of eight years of study with children of 10 years of age.

The general education is in the same place as the music school. The students must maintain a good level of qualifications in both. If the achievement is poor, the student would have to leave the school without the possibility of returning. Thus, there would be an opportunity for another student with musical talent to enter.

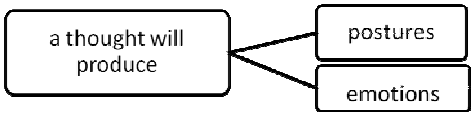
Thus, this situation creates much competition amongst the students with habits of rigorous studying being cultivated in order to maintain the general subjects while paralleling musical studies. Not everyone can face this pressure. In spite of achieving good results, some children manifest signs of anxiety in response to the rigor that comes from the imposed system of study. Frequently, this anxiety plus the study routine can develop into insomnia and other problems.

The use of *Biomusic*

As a solution, some schools implement *Biomusic,* which is used with therapeutic purposes and as tool in performance. *BioMusic* has as its base the quest to find answers through music with its capacity to mobilize and to move by means of managed or controlled sound. Used correctly, it acts on the individual's bio-energetic's system.

In addition, *BioMusic* works with the memory, not as a characteristic of the brain, but like a current present in each muscle of the body, expression, and movement. In *Bio-Music*, the process of *make-feel-think* is one of the aims of the system, thereby facilitating an image. Memories are filed which take and use information that can help to understand daily behaviors. When the musician makes repetitive movements, emotions and thoughts are activated:

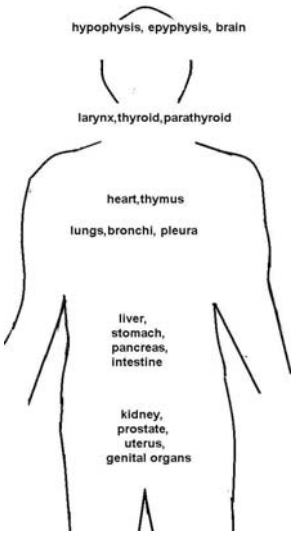
In the same way



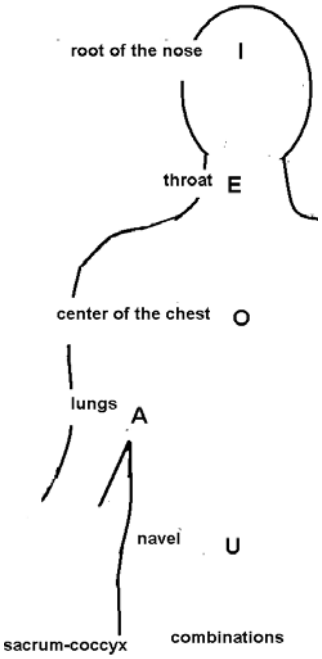
Using this type of discipline, the chain of undesirable habitual behaviors can be stopped by observing them and changing the harmful ones into positive ones.

The sound

As we have cells in our body that are in constant movement and whose state generates sound, let us agree that sound frequencies, sending vibrations to different parts of the body, may re-establish the bioenergetics' balance. The energy blockades are located in these areas with their glands, organs and viscera:



In these areas, we can channel sound using the vowels as the most effective sounds. In the sound exercises, each intonation directs the energy toward the centers that it is necessary to activate:



Logically, the sounds complete their therapeutic and preventive paper, with appropriate breathing and with a correct corporal position.

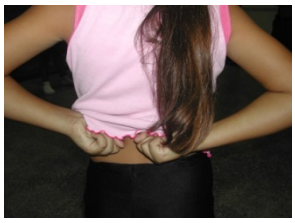
***BioMusic* and other techniques**

BioMusic also facilitates performance and assists in relaxing tensions. In some schools, it is used in a way combined under the direction of the Master Zoila Menéndez. She

has very good experiences combining with the practices of *Tai chí chuang* and *Chi gong*.

In the following pictures, the first group who experienced *BioMusic* as part of their studies appear. All are excellent students and remain in the school with excellent achievements.

The children are also taught to use these techniques outside of the group, in an individual manner so that they have coping and empowering mechanisms.



CONCLUSIONS

BIOGRAPHY

This year our **Performance Health Mini Conference** took place at the Edna Malley College and the UTECH in Kingston and at the UWI in Montego Bay jp.alvarenga1@gmail.com from **April 15-18, 2011**. It was well received by the attendees at each location.

Our lecturers were Dr. Juliette Fagan Naturopathy Practitioner, Dr. D. Garfield Davies ENT Surgeon, Dr. Nancy Lee Harper Music Medicine Therapist, Jo-Ann Richards Ethnomusicologist, Dr. Pearnel Bell Psychologist, Melody Cole International Jazz Musician and Visual Artist, Dr. Heather Little-White Consultant Nutritionist, Dr. Denis Johnson Head of Sports Science UTECH, Joy Fairclough Performance Health Advocate, Educator, Performing and Visual Artist.

Our main topics were Performance Health, Sports Performance, The Professional Voice, Nutrition & Performance, Psychology of Human Performance, Arts Therapy and Music Medicine Therapy.

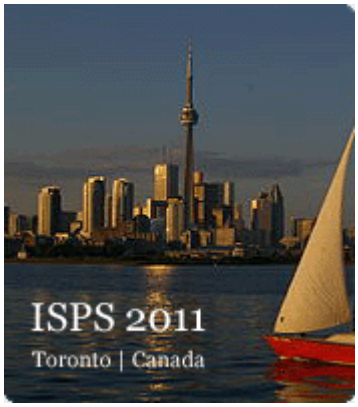
Our hosts - Mr Clarke at UWI Open Campus, Dr Graham and Mr Anthony Davis at Faculty of Sport UTECH, Dr Davidson at Complimentary Medicine UTECH and Mr Duhaney at Edna Manley College - are wanting further dialogue for future workshops and seminars and conferences. This dialogue will be towards also possible formulation of course work studies at these institutions. We expect that more Universities and Colleges will come on board with this Performance Health Campaign. The academic staff at the hosting Universities and Colleges has also asked us to return for further conferences and seminars and student dialogue. Our attendance improved at each session and attendees changed according to the session topics.

We are still seeking big donor sponsors to do a more massive campaign throughout the island and are looking forward to the input of new team members. We now have a planning team and a proposal to the Ministry of Education has been sent for implementation of Performance Health training and assessment throughout the schools in Jamaica via the training of the schools' staff at their locations and at seminars and conferences at a central location. I would like to explore this possibility with our local and overseas lecturing team being called in to do these training sessions. We are presently still doing monthly workshops with community groups and churches. We now look forward to the new school year in September with Seminars and Short Courses being negotiated at the Universities and another Mini Conference for the Winter Tourist season within the first week of December 2011 or April 2012.
Joy Fairclough *joyfairclough@yahoo.com.*

ENGLAND

PERFORMA – PORTUGAL

ISPS 2011



Models of Performance

24 | 27 August 2011

Toronto | Canada

The ISPS 2011 theme, *Models of Performance*, is intended to encourage discussion and debate on issues ranging from models of good practice and performance (e.g. research into inspirational performers, teachers, or learners) to scientific models of performance processes and products.

Advances in video conferencing technology have made it possible to communicate with people all over the world. With the introduction of HD Video and better than CD quality audio, teaching and performing music over the Internet is now a reality. The purpose of the symposium is to identify and develop strategies to establish synchronous distance learning as a viable means of teaching music to anyone in the world.

The symposium will be a virtual conference with four primary sites--Manhattan School of Music (New York), Peabody Institute (Baltimore), Royal College of Music (London), and Yong Siew Toh Conservatory (Singapore)-- and up to twelve additional real-time interactive partner sites through a bridge provided by Internet2. The conference will be webcast in real-time. In addition, selected papers and multimedia presentations will be featured on the symposium website.

Keynote presentations will be given on each day. Thomas Hampson, renowned baritone will give one presentation. The other presenter will be announced shortly.

The main focus of the Symposium will be on the use of video conferencing technology for teaching and learning. The purpose of the symposium is to identify and develop strategies to establish synchronous distance learning as a viable means of teaching music to anyone in the world.

This symposium is been organised by the Manhattan School of Music (New York); Royal College of Music (London); Peabody Institute (Baltimore) and Yong Siew Toh Conservatory of Music (Singapore). Up to twelve additional real-time interactive partner sites can join the symposium through a bridge provided by Internet2 (and 30 may be able to view through "voice activation switching").

We are interested in proposals from individuals and institutions. Proposals should focus on pedagogical issues rather than technical developments; however those demonstrating the educational use of new technologies are welcome. To be selected to present at the symposium, a proposal must demonstrate the use of interactive video conferencing; collaborations between multiple sites are of particular interest. Individuals selected may be invited to one of the four primary sites (stipend may be available) or may present from their home site. All proposals will be peer reviewed.

Interactive sites must have a video conferencing system compatible with H.264 transmission, near CD quality audio and have sufficient bandwidth. Internet2 membership is strongly encouraged. A connection test including audio will be required in early June. It is not required to have a presentation at these sites, though that is also encouraged.

Sample Topics

Getting Started

Best Practices
Beyond the Master Class
Reaching Underserved Populations
Meeting Special Needs
Research on effectiveness
Technological issues and recommendations in relation to pedagogy

Format

Live Presentations (30 mins. including setup and questions)

Lecture/Demonstrations
Panels

Multimedia web presentations
Research Papers

Organizing Committee

Christianne Orto: Associate Dean & Director, Recording and Distance Learning, Manhattan School of Music

Tania Lisboa: Research Fellow, Videoconferencing Projects Manager, Royal College of Music

David Smooke: Faculty - Music Theory & Composition, Peabody Institute

George Hess Associate Professor, Music Technology, Yong Siew Toh Conservatory of Music

Keynote presentations will be given on each day. Thomas Hampson, renowned baritone will give one presentation. The other presenter will be announced shortly

For more information see http://issdl.org/ . Or write to the organising committee on issdl@nus.edu.sg.

TENSION IN PERFORMANCE – THE ISSTIP JOURNAL

GUIDELINES FOR AUTHORS

The ISSTIP Journal is a peer-reviewed journal, which presents a worldwide forum for professionals of all fields of practice and research related to the educational, medical, and psychological problems of performing artists, including those problems affecting musicians, dancers, vocalists, actors, and others. As well, **ISSTIP** is pleased to consider original research studies, case reports, personal essays, review articles, book and multi-media reviews, and letters to the editor with the understanding that they have not been published or submitted for publication elsewhere. ISSTIP reserves the right, in exceptional cases, to re-publish a work with the requisite written authorisation from the previous publisher.

Manuscripts:
ISSTIP invites perspective authors to present articles, case reports, or letters to the editor. All manuscripts should be submitted with a cover letter indicating the name, address, telephone and fax numbers, and e-mail address of the person responsible for correspondence regarding the manuscript. The submissions may be made by electronic mail. With the submitted paper, a statement must be included, signed and dated by all authors, that reads: "*In consideration of the International Society of the Study of Tension in Performance (ISSTIP) reviewing and editing my submission entitled……., the undersigned author(s) hereby indicates his/her material participation in the study and transfers, assigns, or otherwise conveys all copyright ownership to ISSTIP* (UK Registered Charity No 328203), *in the event that such work is published in Tension in Performance, The ISSTIP Journal.*"

Copyright: Manuscripts accepted for publication are copyrighted by the publisher in the issue published and may not be reproduced elsewhere without written permission.

Format: Manuscripts are to be submitted in standard word-processing format (e.g., MS Word) via e-mail. If the file is large, figures, tables, and photos may be submitted as separate files or by sending to an outside electronic depository, such as YouSendIt.com. Alternatively, a CD or DVD with the manuscript in the same format may be mailed to the publisher.

Length of Articles: The submitted articles should not exceed 5000 words, with an ideal length being that of 3000 words, including examples, illustrations, etc., with an average of 8 tables/figures. Authors should use the font of Times New Roman in 12-pt. size, with 1 ½ spacing, and justified margins.

Title page: This should give the following information in the exact order of: title; authors, with highest earned degrees, titles, and institutional affiliations; name, mailing address, phone and fax numbers, and e-mail address of the corresponding author; acknowledgment of grants, any conflicts of interest, and prior presentation.

Keywords: Immediately following, the author should present a list of five (5) keywords separated by semi-colons, for cross-referencing purposes. An example might be: music; perception; aesthetics; performance; singing.

Abstract: Immediately following the Title information listed above, a short abstract that summarises the objectives, methods, results, and conclusion of the study must be included with all articles, which should not exceed 250 words.

Biography of Author(s): A short biography of 100 words for each author should accompany the submission of the article. The author may elect to also include contact information of an email address at the end of the biography.

Borrowed materials: All borrowed materials must be fully identified with written permission obtained from both author and publisher. Please submit copies of permission letters to the publisher when submitting the manuscript.

Tables and illustrations: All graphic images are encouraged and should be professionally prepared or generated by spreadsheet or presentation software (e.g., Excel, PowerPoint, etc.). Figures should be submitted as high-resolution digital or electronic files (with preference of JPEG format and a minimum of 300 dpi or higher preferred) or in native format. All tables and illustrations must be cited, in order, in the text. These should be number consecutively.

References: ISSTIP uses the widely accepted author-date format for references. The following examples are given as guidelines:

A) Articles in Scientific Journals
1- Reference in Text: (Wellmer, 1984: 90).
2-Bibliography (at end): Wellmer, Albrecht. (1984) 'Truth, Semblance, Reconciliation: Adorno's Aesthetic Redemption of Modernity", *Telos* 62, pp.89-116.

B) Books with 1 Author:
1- Reference in Text: (Lerdahl, 2001: 101)
2- Bibliography (at end): Lerdahl, F. (2001) *Tonal Pitch Space*. Oxford: Oxford University Press.

C) Books with various Authors:
1- Reference in Text: (Lerdahl & Jackendoff, 1983: 95)
2-Bibliografia: Lerdahl, F., & Jackendoff, R. (1983) *A Generative Theory of Tonal Music*. Cambridge, MA: MIT Press.

D) Chapters in Books:
1- Reference in Text: (Narmour, 1995: 317).
2- Bibliography (at end): Narmour, E. (1988) "On the Relationship of Analytical Theory to Performance and Interpretation", in E. Narmour and R. A. Solie (eds) *Explorations in Music, the Arts and Ideas*, pp. 317-340. Stuyvesant, NY: Pendragon.

E) Dissertations:
1- Reference in Text: (Mackay, 1976: 51).
2- Bibliography (at end): McKay, J. R. (1976) 'Notational Practices in Selected Piano Works of the Twentieth Century', unpublished doctoral dissertation, Ball State University. If published, then the dissertation would be placed in italics with the requisite information of publisher and place, as with book references.

F) Documento On-line
1- Reference in Text: (Vieira de Carvalho, 2000).

2- Bibliography (at end): Vieira de Carvalho, Mário, "Art as Autopoiesis?
A critical Approach, Beginning with the European Musical Avant-garde in the Early 1950s", available at: http://www.fcsh.unl.pt/ (consulted on 8 September 2005).

G) CDs, DVDs and other multi-media

1- Reference in Text: (Harper, 2007).
2- Bibliography (at end): Harper, Nancy Lee (2007) *A música portuguesa para piano, vol. 2.* Numérica Produções Multimédia: NUM 1147.

Files, Examples, and Illustrations: All manuscripts should be presented in Word format or RTF (rich text format).

End Notes: Authors are asked to use End Notes in ordinal numbers, and not Footnotes, following the examples given above with text references appearing in the body of the text and bibliographic references appearing at the end of the text.

Musical Notational Terminology: Regarding terminology for the use musical notes, authors should use the conventional usage adopted by the Acoustical Society of America (Middle C = C4). Musical examples, illustrations, and tables should be consecutively numbered with JPEG as the image format.

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